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Planning and Statistical Systems in China's Agriculture

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PLANNING AND STATISTICAL SYSTEMS IN CHINA'S AGRICULTURE.
Francis C. Tuan and Frederick W. Crook. International Economics
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ABSTRACT

China's agricultural economy, one of the world's largest, produces more grain and hogs than any other country. But, because of high domestic demand, China is also a major purchaser of grain, oilseeds, and fibers. The United States has become a major supplier of many of these commodities. Planners directly issue orders to control production in government-owned state farms. For collectively owned communes, the Government uses direct means such as procurement quotas and indirect techniques like credit control to manage production. China's recently reestablished statistical system is particularly weak in rural areas because of shortage of trained personnel. Census-type reporting is the main method employed to collect data.

Keywords: People's Republic of China (PRC); agriculture; planning; statistical system; Ministry of Agriculture; State Statistical Bureau; farm structure; communes; surveys.

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PREFACE

This report presents significant information about China's agricultural economy not previously available outside of China. The last comparable study, The Report of the Indian Delegation to China on Agricultural Planning Techniques, was written in 1956 by a group of Government of India officials. Featured in this present report is the description of the planning process and the translation of China's 1981 agricultural statistical reporting forms and reporting schedule.

This report draws heavily on materials and information obtained by U.S. Department of Agriculture (USDA) officials visiting China. This information was supplemented by extensive use of materials from the Economic Research Service (ERS) files. A particularly important source of information was the USDA delegation to study China's agricultural planning and statistical system. This team of economists and statisticians visited the People's Republic of China (PRC) from October 7-27, 1980, as guests of China's State Agricultural Commission. A reciprocal team of specialists from China was hosted by USDA from July 24 to August 15, 1980. This exchange was part of a series of exchanges between China and USDA. These exchanges are the result of the U.S.-PRC Science and Technology Exchange Agreement signed in Beijing in October 1980. USDA's Office of International Cooperation and Development coordinated these exchanges.

Because of the availability of sources, the year 1980 was chosen as the focus of this report. The period from the late seventies to the present has been one of ongoing evolution of agricultural policy, as regional specialization and private production activity have been encouraged, rural free markets have reopened, incentive systems have changed, and farm prices have increased. The governmental organization of the agricultural system has also been modified. Where appropriate, brief descriptions of modifications since 1980 have been included. However, basic features and character of the agricultural planning and statistical system have changed little since 1980 and most of the processes described are still in effect.

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CONVERSION
EQUIVALENTS AND TERMS

<u>Conversion factors</u>	<u>Chinese</u>	<u>Metric</u>	<u>English</u>
	1 mu (mou)	0.0667 hectares	0.1647 acres
	15 mu	1.0 hectares	2.4711 acres
	1 jin (catty)	0.5 kg. = 0.0005 tons	1.1023 lbs.
	1 dan (picul=100 jin)	50.0 kg. = 0.05 tons	110.23 lbs.
<u>Terms</u>	<u>Aquatic production:</u>	Refers to both fresh and marine fishing, and cultivation of water plants, shellfish, and fish.	
	<u>Basic unit of account:</u>	Refers to the entity in the commune system which makes final economic decisions, distributes income, takes production risks, calculates profits or losses, and owns most of the fixed assets.	
	<u>Chinese Communist Party:</u>	CCP. China's dominant political party founded in Shanghai in 1921.	
	<u>Chinese Communist Party Central Committee:</u>	CC of CCP. The prime controlling body of the Chinese Communist Party is the party's Central Committee.	
	<u>Collective farm:</u>	Members of collective farms share ownership of the means of production. Farm workers are not employees of the state but are compensated for their work by the labor day work payment system (see later entry).	
	<u>Commune and brigade enterprises:</u>	Commune units and brigades own and operate enterprises such as mines, light industrial manufacturing facilities, logging and lumber operations, flour and rice mills, construction, and transportation teams.	
	<u>Commune unit:</u>	The commune unit is the prime government body in the commune system which is subordinate to the county. It governs the activities of brigades, teams, and households. The commune unit also is a production unit (see commune and brigade enterprises).	
	<u>Cultural Revolution:</u>	The turbulent period from 1966 through 1976 in which extreme emphasis was placed on ideological purity, nonmaterial incentives, and obedience to party discipline. Schools and research institutes were disrupted.	

<u>Double-track reporting system:</u>	Also known as the two-track reporting system. The system requires subordinate units to prepare two copies of reports, one to be sent to the controlling parent organization, and the second to be sent to the local unit of government.
<u>Equivalent interval method:</u>	A sampling method in which a required number of samples is taken from a list of total population by using a uniform interval which is calculated from the cumulative total, and formed according to certain characteristics of the population and the number of samples required to be drawn.
<u>Gross value of agricultural output:</u>	GVAO. The gross value of output of crops, livestock, forestry, fisheries, and certain kinds of rural industry.
<u>Gross value of industrial output:</u>	GVIO. The gross value of the final results of industrial production activities such as extracting, collecting, and processing materials.
<u>Labor day work payment system:</u>	A work payment system which correlates payment with the quality and quantity of work done. Labor days or unit claims against expected collective farm profits are issued to farmers for work done.
<u>National People's Congress:</u>	NPC. China's highest organ of state power. Deputies to the congress are elected.
<u>Prefecture:</u>	An official administrative level between the province and county.
<u>Production brigade:</u>	PB. One of the four organizational elements in the commune system; subordinate to the commune unit but superior to teams and households.
<u>Production team:</u>	PT. One of the four organizational elements in the commune system; subordinate to brigades. In 1980, the PT was the basic unit of account and should be considered China's prime production unit.
<u>Quotas:</u>	In China's planned economy, the Government requires production units to fulfill physical output quotas or production targets.

Rural People's
Communes:

RPC. The terms RPC, commune, and commune system are used to refer to the whole system including the four levels of commune unit, production brigade, production team, and household.

State Agricultural
Commission:

SAC. The commission was established in 1979 to promote modernization of China's agriculture. In the 1982 reorganization of the Government, this commission was abolished and its functions were transferred to the State Economic Commission and the Ministry of Agriculture, Animal Husbandry, and Fisheries.

State Council:

SC. The State Council is China's chief executive and administrative body which is headed by the premier.

Sideline
enterprises:

One of China's five official agricultural subsectors (the others are crop, forestry, animal husbandry, and aquatic subsectors). To calculate the gross value of agricultural output, China does not include the value of output from commune unit industrial enterprises, but does include output from brigade, team, and household industrial enterprises. See commune and brigade enterprises for a list of the kinds of production activities included in sideline enterprises.

State Planning
Commission:

SPC. China's top-level planning organization.

State Statistical
Bureau:

SSB. The SSB is China's prime statistical agency which collects, analyzes, and publishes statistics. It was established in 1952, disbanded during the Cultural Revolution, and is now being rebuilt.

State farms:

Farms in which all assets are owned by the Government. Farmworkers earn wages and are state employees.

Xiang:

Township. Prior to the organization of communes, the xiang, or township, traditionally had been China's lowest level administrative unit. After 1958, the governmental functions of the xiang were transferred to the commune unit. The revised 1982 constitution proposes that the commune be stripped of its governmental functions and these functions be returned to the reconstituted xiang.

SUMMARY

China, with one of the world's largest agricultural economies, is a major buyer of U.S. wheat, corn, soybeans, and cotton. It sells nuts, textiles, mushrooms, and tea to the United States. China's total agricultural imports and exports were \$9.5 billion in 1980. The growing social and trade ties between China and the United States have generated exchanges of agricultural experts to foster mutual understanding of their agricultural systems.

This report details the planning and statistical systems which support China's rural economy. It draws heavily on information and materials collected by a U.S. Department of Agriculture team visiting China in 1980.

The Chinese Government guides all basic economic decisions and allocates resources for agricultural production. Government plans, targets, and administrative orders form the heart of the Chinese agricultural economy, contrasting sharply with the U.S. farm economy where private business people monitor commodity markets, prices, and interest rates as they make production and marketing decisions.

China has a five-tiered administrative hierarchy: national, provincial, prefectural, county, and commune. Planning and statistical work is coordinated in this administrative structure through the use of a "double-track" reporting system. In this system, functional entities within the administrative units are required to submit two copies of requested planning reports: one to the local unit of government and one to the parent organization one level up.

China has many different kinds of plans: some based on time such as 5-year and annual plans, some based on special needs such as foreign trade and agricultural procurement plans, and some based on sectors such as industry and agriculture.

Agricultural plans control the economic behavior of the production units in the commune system. Strong autonomous forces such as local self-interest, self-reliance, and the profit motive exist in these units. China uses direct instruments such as fixing government procurement contracts and indirect measures such as control of credit, marketing facilities, and electricity to guide farm leaders to make proper economic decisions.

Planning during the Cultural Revolution (1966-76) was too highly centralized and basic production units were not given sufficient autonomy to adapt central plans and targets to local conditions. These planning procedures restricted agricultural development and demoralized farmers. Changes were instituted in 1978. Planning became more decentralized and production units were given more decision authority.

China is rebuilding its agricultural statistical system severely disrupted during the Cultural Revolution. Statistical organizations were abolished, workers were discharged, and

some records were destroyed. The system was reestablished in the midseventies; but, in 1980, the system at the national level had only half the staff as in 1956. Many counties and most communes did not have full-time statistical workers by 1980.

China relies on a census-type reporting system to collect agricultural data. Each of China's more than 5 million basic production units report each year on about 500 different categories of data in 13 quarterly and annual statistical reporting forms. One of the main deficiencies in China's statistical system is the lack of modern electronic data processing equipment to handle the huge volume of data.

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INTRODUCTION

China's economy, closed to U.S. products for decades, has been opened since 1973 to large quantities of U.S. wheat, corn, soybeans, and cotton.^{1/} U.S. rice, oilseeds, fruits, and nuts have competed in world markets with commodities produced in China. The United States shipped nearly \$2.3 billion worth of agricultural goods to China in 1980.

China's agricultural economy is one of the world's largest, producing more rice, potatoes, pulses, tobacco, and hogs than any other country. It is also a major producer of wheat, corn, sorghum, soybeans, peanuts, tea, hemp, jute, cotton, horses, sheep, and poultry. Eight Chinese out of every 10 live on farms, making China's 300-million agricultural labor force the world's largest.

This study provides information on how the PRC economy is organized, how it is planned, and how data are collected and used. Specific objectives are:

- o To provide a broad overview of China's recent agricultural development.
- o To describe major institutions involved in planning agricultural production and collecting agricultural economic data.
- o To explain how production plans are formulated.
- o To assess forces guiding production units to make economic decisions.
- o To explain how agricultural economic data are collected and used.
- o To provide a complete translation of China's official 1981 statistical reporting forms and reporting schedule.

^{1/} China and PRC refer to the People's Republic of China.

China's leaders have structured their economy according to the tenets of Marx, Lenin, Stalin, and Mao. Private ownership of the means of production, free markets, competition, and mobility of labor and capital were swept away and replaced with state ownership, government supervision of markets, and government control of business enterprises and factors of production. Leaders of production units and economically active participants in this socialist economy are guided to make basic economic decisions and allocate resources. Plans are at the heart of the PRC system. U.S. business executives rivet their attention on stock market activity, prices, and interest rates, while their Chinese counterparts look for annual production and procurement plans, control targets and administrative orders, and commodity and financial data bulletins. This report examines agricultural planning, which is as important in China's agricultural economy as commodity markets, prices, and interest rates are in the U.S. agricultural economy.

Statistical reporting systems, the other major focus of this report, provide a critical stream of information which PRC production leaders use to make economic decisions and allocate resources. Planners must rely on statistical reports, for example, to understand how much wheat has been produced, what areas should increase or decrease wheat area, and what quantities of fertilizer will be available. China's agricultural statistical system is used to provide data to formulate and balance plans, manage and implement plans, and review plan fulfillment. This report describes and analyzes this agricultural statistical reporting system which is as important in China's agricultural economy as the extensive U.S. system, public and private, for gathering, analyzing, and disseminating agricultural statistics.

China has a unique system of farming. Communes are not just production units, but integrate all aspects of rural life such as education, transportation, health, commerce, water control, and military affairs. Central plans strongly guide farmers' economic behavior and the marketing of farm products is also tightly controlled by the Government.

CHINA'S AGRICULTURE IN 1980

This chapter describes how China's agricultural economy is organized and how it has developed over the past few decades. Key findings in this chapter are:

- o China's agricultural economy had an average annual growth rate of 4.3 percent from 1949 to 1980.
- o Water control projects were constructed to restrain floodwater, generate electricity, and provide irrigation water. Irrigated area doubled from 1949 to 1980.
- o Farm machinery use increased from only a few tractors in 1949 to 745,000 large and medium-sized tractors and 1.9 million handguided tractors in 1980. Tractors now plow 41 percent of cultivated area.

- o Organic fertilizers are important sources of plant nutrients. Chemical fertilizer production increased rapidly in recent years so that in 1980 the national average use rate was 128 kilograms per hectare (nutrient-weight basis).
- o Small-scale enterprises such as rice mills, cotton gins, and oilseed presses have been established and now total 1.48 million. These rural enterprises help increase farm income and provide employment in slack seasons.
- o Agricultural education developed so that in 1980 there were 84 agricultural colleges and universities and 469 vocational agricultural high schools.
- o An agricultural extension system has been established, reaching down to production brigades. The system has encouraged farmers, for example, to grow hybrid corn and sorghum on 60 percent of the area sown to these two crops.

Production Growth

China has a total land area of 960 million hectares, approximately 6.5 percent of the world's total. Ninety percent of China's land surface is composed of mountains, desert, forest, and grassland and is unsuitable for intensive cultivation (table 1). The population of nearly 1 billion people is supported by 100 million arable hectares, with an average of 9.7 persons per hectare (3.9 persons per acre). Because additional land cannot be easily and economically brought into cultivation, China's agricultural development policies have stressed land improvement, higher crop yields, expansion of irrigated areas, and multiple cropping (64). (Underscored numerals in parentheses indicate item in References section.)

China's agricultural production has increased rapidly since 1949. The gross value of agricultural output (GVAO) for 1980 reached 162.7 billion yuan, more than three times that of 1949 (using constant prices), for an annual growth rate of 4.3 percent.^{2/} Annual growth rates in the past 25 years, however, have been uneven (table 2). The average annual growth rate for the first 4 years of the fifth 5-year plan (1976-80) was 5.4 percent per year, with an especially high rate of 6.3 percent from 1977 through 1979 (64). The average annual growth rate for the whole 5-year period was a more modest 4.9 percent.

Output of various agricultural products has increased greatly since 1949. Total grain production amounted to 320.5 million tons in 1980, almost double the 113.2 million tons in 1949.^{3/}

^{2/} One yuan equalled approximately U.S. \$0.67 in 1980 at the official rate of exchange. GVAO is the most commonly used indicator of overall rural economic performance in China. It includes the gross value of output of crops, livestock, forestry, fisheries, and rural sideline (raw agricultural materials processing) production.

^{3/} Grain includes wheat, rice, coarse grains, other miscellaneous grains, pulses, tubers (converted to a grain weight using a 5:1 conversion ratio), and soybeans.

Table 1--Land utilization, PRC

Use	: : 1949 :	: : 1957 :	: : 1978 :	: : 1979 :	: : 1980 :	: : 1985 plan
	:	:	<u>Million hectares</u>			
Total surface area	: 960	960	960	960	960	960
Forest area	: 85	100	115	122	122	142
Afforestable area	: NA	NA	80	200	120	NA
	:	:	:	:	:	:
Desert area	: NA	NA	126	126	128	NA
Grassland area	: NA	NA	287	287	280	NA
Usable grassland area	: NA	NA	220	220	233	NA
	:	:	:	:	:	:
Reclaimed land	: --	2	NA	NA	<u>1/21</u>	<u>2/8</u>
Cultivable wasteland area	: NA	100	NA	33	33	NA
	:	:	:	:	:	:
Cultivated area	: 98	112	99	99	99	<u>2/NA</u>
Machine-cultivated area	: NA	NA	33	40	42	NA
High stable-yield fields <u>3/</u>	: NA	NA	<u>3/34</u>	<u>3/23</u>	NA	NA
Irrigated area	: 16	35	<u>4/47</u>	<u>4/47</u>	47	63

NA = Not available.

-- = Negligible.

1/ This figure is the total reclaimed in the 20 years, 1957-77.

2/ This figure is the planned reclaimed area to be added between the late 1970's and 1985; it apparently has been reduced from the original plan of 13 million hectares. Reclaimed area cannot be taken as the planned increase in cultivated area due to shifting of area to other agricultural and nonagricultural uses. China reports the loss in cultivated area due to shifts away from cultivation amounted to 33 million hectares from 1957 to 1977. Coupled with the gain due to reclamation, this decline indicates a net 13-million-hectare decline in cultivated area during that 20-year period.

3/ "High stable-yield fields" are those fields which insure high and stable crop yields because of better fertility and soil structure, and improved water control facilities. The figure used for 1978 is actually the last available claim from 1976. The definition of this category may have been adjusted in 1979.

4/ The 1978 and 1979 irrigated area reported was 46.67 million hectares; the 1980 report claims 47.33 million hectares.

Sources: (88, p. 1; U.S. Department Agriculture, Economic Research Service).

Table 2--Growth in gross value of agricultural output, PRC

Period	:	Average annual growth rate
		Percent
Recovery Period (1950-52)	:	14.1
First 5-Year Plan (1953-57)	:	4.5
Second 5-Year Plan (1958-62)	:	-4.3
Adjustment Period (1963-65)	:	11.1
Third 5-Year Plan (1966-70)	:	3.9
Fourth 5-Year Plan (1971-75)	:	4.0
Fifth 5-Year Plan (1976-80) <u>1/</u>	:	4.9

1/ Estimated by U.S. Department of Agriculture, Economic Research Service.

Source: (64).

Cotton production in 1980 of 2.7 million tons was five times the 445,000 tons produced in 1949. Output of oil-bearing crops in 1980 was three times the level produced in 1949 (table 3). The number of hogs and sheep (including goats) in 1980 was 5.3 and 4.4 times the 1949 levels, respectively. The growth rate of most agricultural commodities exceeded that of China's population. For example, per capita grain production of 209 kilograms in 1949 grew to 324 kilograms in 1980.^{4/} Farmer's per capita income from collective farms, unadjusted for inflation, increased from 40.5 yuan when such farms were organized in 1957 to 85.9 yuan in 1980 (19; 75).^{5/}

^{4/} An alternative way to look at the growth rates in China's agriculture is to compare production levels in the midfifties with levels in the late seventies. Such a comparison has been made in (77).

^{5/} Farmers working in the commune system have two sources of income. First, the collective distributes net income to its members on the basis of the amount and quality of labor contributed to production. Second, households are permitted to generate income from private plots and subsidiary production. The most frequently used measure of living standards in China's rural economy is "per capita income distributed by the collective." The measure does not include income from private sources. Generally, income indicated by this measure constitutes about 60 to 80 percent of total income. The balance, 20 to 40 percent, comes from private production activity. Also, given the fact that average income from the collective was 65 yuan in 1977, 74 in 1978, 83.4 in 1979, and 85.9 in 1980, much of the growth has occurred in the last 3 years.

Table 3--Grain, oilseeds, and cotton production, PRC

Year	Grain	Oilseeds	Cotton
<u>Million tons</u>			
1949	113.2	2.5	0.4
1952	163.9	4.2	1.3
1957	195.0	4.2	1.6
1965	194.5	3.6	2.1
1970	240.0	3.7	2.3
1975	284.5	4.5	2.4
1976	286.3	4.0	2.1
1977	282.7	4.0	2.0
1978	304.8	5.2	2.2
1979	332.1	6.4	2.2
1980	320.5	7.7	2.7

Source: (88, pp. 34-36).

Increasing Technology

China made great efforts in the last 30 years to control water, improve soil fertility, increase availability of agricultural machinery, and develop and extend advanced technology to farms. Several rivers such as the Yellow, Huai, and Hai once caused frequent and severe damage, but now flood potential has been reduced. Since 1949, 86,000 large, medium, and small reservoirs have been built (mainly small reservoirs) with a total storage capacity of 400 billion cubic meters. Deep wells numbered 2.2 million in 1980, and a large number of electrically powered drainage and irrigation projects have been completed. Motors and engines totalling 74 million horsepower are harnessed to pumps to move water in these projects. Irrigated area increased to 45 million hectares, about 45 percent of the total cultivated land in China. This is nearly two times the irrigated area of 1949. Improvements have been made on 17 million hectares of low-lying and waterlogged fields; 4.1 million hectares of saline-alkaline fields; 2 million hectares of infertile, acidic, red and yellow soil fields; and 6.6 million hectares of terraced fields in the past 30 years.

Before 1949, industries manufactured no modern agricultural machinery (64). However, by 1980, China had 745,000 large and medium-sized tractors, 1,874,000 handguided tractors, and 135,000 farm trucks. In 1980, tractors plowed 41 percent of total cultivated area.

There were more than 87,000 small-scale hydroelectric power stations with an installed capacity to generate 6.3 million kilowatts. Almost 90 percent of the rural people's communes (RPC's) and over 50 percent of production brigades (PB's) were supplied with electricity.

The total quantity of chemical fertilizers applied on a nutrient-weight basis in 1980 reached 12.32 million tons (table 4). The national average use of chemical fertilizers reached 128 kilograms per hectare in 1980.

Improved strains of rice, wheat, and cotton have been planted in many areas. Area planted to hybrid maize and sorghum now accounts for more than 60 percent of the area sown to the two

Table 4--Major manufactured farm inputs, PRC

Item	Unit	1977	1978	1979	1980
Yearend farm machinery stocks:					
Large and medium-sized tractors	1,000	467	557	667	745
Hand tractors	do.	1,091	1,373	1,671	1,874
Power-driven drainage and irrigation machines	1,000 hp	60,046	65,575	71,221	74,654
Annual farm machinery production:					
Large and medium-sized tractors	1,000	99.3	113.5	125.6	98
Hand tractors	do.	320.5	324.2	317.5	218
Tractor-drawn plows, rakes, and sowing machines	do.	NA	NA	129	NA
Tractor-drawn trailers	do.	NA	NA	112	NA
Internal combustion engines <u>1/</u>	1,000 hp	27,410	28,180	29,080	25,390
Rural electric consumption <u>2/</u>	Million kWh	22,200	25,300	28,300	32,100
Chemical fertilizer <u>3/</u>	1,000 tons	7,238	8,693	10,654	12,320
Nitrogen	do.	NA	7,637	8,821	9,990
Phosphate	do.	NA	1,033	1,817	2,310
Potassium	do.	NA	21	16	20
Chemical insecticides	do.	457	533	537	537

NA = Not available.

1/ Total national production.

2/ Not all for agricultural production. Rural consumption was 10 percent of national electric power production in each year.

3/ All figures in nutrient weight. The 1978 breakdown is derived from 1979 production figures and reported percentage changes from 1978. Consequently, individual items do not exactly sum to total.

Sources: (88, pp. 39-40; 75).

crops. Farmers planted 5.2 million hectares--roughly 15 percent of total rice area--to hybrid rice in 1980.

More than 1,600 forecasting and reporting stations have been established to prevent and control plant pests and diseases. Greater attention has been placed on the use of biological measures to protect crops from insect pests. Some diseases and insects which have seriously damaged agricultural production since ancient times, such as locusts, leaf and stem rust of wheat, and rice stem borers, are being brought under control.

Rotation and cropping systems have been reformed to better suit local conditions. The ratio of total crop area sown in a year to total cultivated area (the multiple crop index) has been raised from 120 percent in 1949 to a current 150 percent.

Agricultural education has expanded rapidly since 1949. Agricultural colleges and universities numbered 84 in 1980, compared with only about 10 in 1949. These institutions enrolled 80,000 students with 23,000 faculty members. Vocational high schools recently increased to 469 with 150,000 students and 17,000 teachers. Research institutes in China expanded to about 1,300, with 46,000 researchers. Even with these rapid increases, however, China still has a great shortage of trained persons in rural areas.

Farm Structure

China has two distinctly different farm systems: (1) government-owned and managed state farms and (2) collectively owned, but government-controlled, rural people's communes (RPC's). The assets of the 2,053 state farms are owned by all the people (state ownership); workers are wage earners (table 5). State farms cultivated 4 percent of China's arable land, employed less than 2 percent of the rural labor force, and produced only about 2 percent of total grain output in 1979 (88, p. 5).

The commune system is composed of four parts: (1) the commune unit, (2) production brigade (PB), (3) production team (PT), and (4) households. There were 53,348 communes in China in 1979; each had an average of 13 brigades and 97 teams (table 5). Communes are large organizational units and average 3,279 households, 15,134 persons (members), and over 1,800 hectares. Assets in communes are collectively owned by farm families living within the boundaries of the communes. Communes cultivate 96 percent of total arable land (including private plots), employ 98 percent of the rural labor force, and produce 98 percent of total grain production (88, pp. 4-5; 41). The commune unit functions as the basic unit of local government, responsible for collecting taxes, providing public security, and sending statistical reports to higher administrative levels. When the direction and control of a large organizational unit is required, the commune unit provides leadership for water resource management, transportation, construction, and afforestation projects. The commune unit integrates local legislative bodies called member congresses, administrative organs,

Table 5--Major indicators of farm structure, PRC

Year	State farms	Commune system				
		Commune	Production brigades	Production teams	Households	Population
		---Number---	---Thousand---		---Million---	
1949	26	--	--	--	--	--
1952	562	--	--	--	--	--
1957	804	--	--	--	--	--
1958	NA	23,630	--	--	128.61	560.17
1959	NA	25,450	518	3,299	127.45	554.43
1960	NA	24,317	464	2,892	126.62	NA
1961	NA	57,855	734	4,089	131.99	NA
1962	2,123	74,771	703	5,530	134.10	NA
1963	NA	80,956	652	5,643	134.24	568.33
1964	NA	79,559	644	5,590	133.88	575.72
1965	2,062	74,755	648	5,412	135.27	591.22
1966	NA	70,278	651	5,164	136.61	606.48
1967	NA	70,050	649	5,106	NA	NA
1968	NA	59,812	641	4,869	NA	NA
1969	NA	53,722	648	4,585	NA	NA
1970	1,763	51,478	643	4,564	151.78	699.84
1971	NA	52,674	654	4,587	153.78	716.11
1972	NA	53,823	662	4,722	156.01	731.81
1973	NA	54,423	667	4,769	158.39	747.98
1974	NA	54,620	671	4,800	161.39	763.89
1975	2,320	52,615	677	4,826	164.48	777.12
1976	NA	52,665	681	4,827	168.03	787.45
1977	NA	52,923	683	4,805	171.07	796.88
1978	2,062	52,781	690	4,816	173.47	803.20
1979	2,047	53,348	699	5,154	174.91	807.39

NA = not available.

-- = not applicable.

Source: (88, p. 5).

Chinese Communist Party organizations, and government-managed entities such as militia units and banks.

China's draft constitution (1982) proposes that politics and economic administration in the commune system be separated. The new constitution proposes that the commune unit remain as an economic entity, but government, administrative, and political functions be returned to newly reconstituted xiang (township) governments (81, No. 83, Apr. 29, 1982, pp. K-1 to K-24).

Brigades are the end link in the long chain of government and party control systems. The Chinese Communist Party Branch is located at the brigade level and is responsible for bringing discipline to rural areas. The brigade oversees the work of production teams and has a hand in electing team leaders. There are 699,000 brigades, each with an average of 7.4 production teams. Brigades often provide social services such as elementary education and medical clinics (88, p. 5).

Commune units and brigades engage in a wide variety of production activities such as operating small coal mines, overseeing small logging and fishing operations, and managing workshops which manufacture cigarettes, textiles, and agricultural machinery. Construction crews build dams, roads, and houses. Processing plants mill grain, extract oil from oilseeds, and gin cotton. Commune unit and brigade enterprises expanded to about 1.48 million units and employed 28 million workers in 1979. Total revenue from these enterprises reached 49 billion yuan, of which profit accounted for 100 million yuan.

Teams are small collective farms which cultivate an average of about 19 hectares of land and have about 34 households and 157 persons. The team is the most important formally organized unit in the commune system and is China's primary farm production unit. These semiautonomous units, numbering 5.1 million in 1979, make final decisions regarding the production of goods and the distribution of income (88, p. 5). They calculate profits or losses. Aside from the farm household, no other institution in China so deeply affects every major aspect of the lives of China's rural population. Farmers in teams are compensated for their labor through the labor day work payment system, in which farmers are given a unit claim to a share of their team's net income commensurate with the amount of labor each contributed during the year.

Households in rural China numbered 174.8 million in 1979 (88, p. 5). Households within a team collectively own the means of production, but continue to own privately the home they possessed before collectivization began in 1956. Households assume responsibility for disciplining and motivating family members to work on team, brigade, and commune projects. Government policy permits families to raise animals and grow crops on private plots. Private plots average only 0.027 hectares (less than 0.1 of an acre), but produce most of China's output of vegetables, poultry, and hogs. Private production activities have generated 20 to 40 percent of household income in recent years. Government policy now allows families to engage in subsidiary production activities such as making straw mats, weaving cloth, manufacturing bamboo household articles, and laying bricks.

There are separate and distinct management, planning, and statistical systems for communes and state farms. Communes are the most important part of China's agricultural sector; therefore, this report devotes more attention to analyzing the planning and statistical work in communes than in state farms.

Components of
Agricultural
Production

China's statistics divide agricultural production and GVAO into five components (table 6). The value of output generated by production brigades and teams from sideline enterprises is counted in GVAO figures. The value of industrial output generated by commune-level enterprises, however, is counted in the gross value of industrial output (GIVO), not in GVAO figures (see Appendix, Annual Report 11).

The sum of the noncrop components advanced from 32.5 percent of the total GVAO in 1977 to 35.7 in 1980, indicating a trend away from overemphasis on crop production to specialization in many different kinds of production activity.

Such diversification is the result of new policies implemented since the late seventies. The Chinese Communist Party (CCP) issued two important agricultural documents at the end of 1978 which clearly state that all five subsectors should be developed simultaneously in contrast to an emphasis on grain and other crops (14; 16). Farmers were instructed to develop agricultural production according to local conditions and to adopt the principle of specialization. The documents specify that the inappropriate structure of agricultural production should be corrected gradually and that communes and brigades should be able to fix their own production plans. Commune members were

Table 6--Subsector contributions to GVAO, PRC

Subsector	: : 1949	: : 1977	: : 1978	: : 1979	: : 1980
	:	:	:	:	:
	:	<u>Percentage of GVAO</u>			
	:	:	:	:	:
Crops <u>1/</u>	: 82.5	67.5	67.8	66.9	64.3
Forestry <u>2/</u>	: .6	3.1	3.0	2.8	3.1
Animal husbandry <u>3/</u>	: 12.4	13.7	13.2	14.0	14.2
Sideline enterprises <u>4/</u>	: 4.3	14.2	14.6	15.1	17.1
Aquatic products <u>5/</u>	: .2	1.5	1.4	1.2	1.3
	:	:	:	:	:
Total	: 100.0	100.0	100.0	100.0	100.0
	:	:	:	:	:

1/ Includes grain, fibers, oilseeds, vegetables, and fruits.

2/ Includes lumber, bamboo poles, resin, and pitch.

3/ Domestic farm animals and animal products such as meat, bone meal, wool, and camel hair.

4/ Involves a number of production activities: picking and collecting wild plants, catching wild animals and fowl, initial processing of agricultural products, and rudimentary manufacturing and handicrafts.

5/ Includes freshwater and marine products.

Sources: 1949: (65); 1977: (81, No. 178, Sept. 12, 1979, p. L-14); 1978-80: (75).

encouraged to run family sideline enterprises. Procurement prices of agricultural products and byproducts should be raised, and diversified operations should be encouraged.

Such policy changes encouraged shifts in the structure of agricultural production. Meat production including pork, beef, and mutton increased from 8.56 million tons in 1978 to 12.05 million tons in 1980. Output of oil crops, sugar crops, and cotton increased in the past few years, but per capita production levels of some commodities are still low despite some gains. For example, China's 1980 per capita output of cotton was 2.8 kilograms; sugar, 2.6 kilograms; oilseeds, 7.8 kilograms; and meat, 12.3 kilograms. China's leaders feel these levels are far from meeting the requirements of the people (65).

OVERVIEW OF 1980 AGRICULTURAL PLANNING

PRC leaders say central planning is basic to their socialist economy because the means of production are publicly owned and that portion of the economy which is owned by all the people guides the rest of the economy (83, p. 163). The late Chairman Mao Zedong said, "To build a strong socialist state, there must be unified central leadership, unified plans and discipline. Obstruction of this essential unity is not to be tolerated" (80, EC, No. 76,292, Aug. 26, 1980, p. 19).

The purpose of planning is to insure rapid economic development, provide for the rising material needs of the population, and guarantee a proper balance between consumption and investment. Planning systems have been created to measure output, construct a proper ratio between investment and consumption, allocate investment funds to specific economic sectors, distribute consumption goods to the people, and coordinate and integrate the various production activities in the economy (83). This planning process gives the central Government and the Chinese Communist Party major influence upon fundamental economic decisions.

This chapter describes government institutions involved in planning, defines different kinds of plans, and identifies policies which affect planning. The main findings in this chapter are:

- o PRC has many plans. Some are based on length of time, such as 20-year, 10-year, 5-year, and 1-year production plans. Others are founded on special needs such as transportation, foreign trade, and price plans.
- o Rural credit activities were curbed during the Cultural Revolution, but the agricultural bank system, reestablished in 1979, now grants low-interest loans to production units.
- o China's agricultural tax system encourages farmers to increase production. The grain tax paid as a proportion of total grain production fell from 12.2 percent in 1952 to 3.2 percent in 1979.

- o PRC leaders want to make more use of the price mechanism. In 1980, they maintained their long-term policy of holding constant retail prices of basic foodstuffs. Procurement prices for farm products were raised in 1976-79 to increase rural household income and to encourage production. The Government subsidized the difference between the increased farm price and the stable retail price.
- o The four phases of planning in China are: (1) investigation, research, and analysis of data; (2) integration, balance, and formulation of plans; (3) review, approval, and transmission of plans to lower levels; and (4) implementation, evaluation, and summarization.

Organization Of PRC Government

The constitution adopted in March 1978 outlines the main political structures at the national level.^{6/} The constitution indicates that the working class in China exercises leadership over the state via the Chinese Communist Party. Party and government relations are very close in China and there appears to be considerable interchange of personnel, experience, and information. Party personnel also frequently hold important government administrative posts.

The National People's Congress (NPC) is the highest organ of state power. Deputies are elected to the congress by provincial people's congresses, by the People's Liberation Army, by mass organizations (such as peasant associations), and by professional groups. The NPC examines and approves the national Government's budget and economic plans. It also makes laws and appoints judges. Furthermore, the NPC approves the Premier of the State Council (SC) after a candidate has been nominated by the CCP's Central Committee.

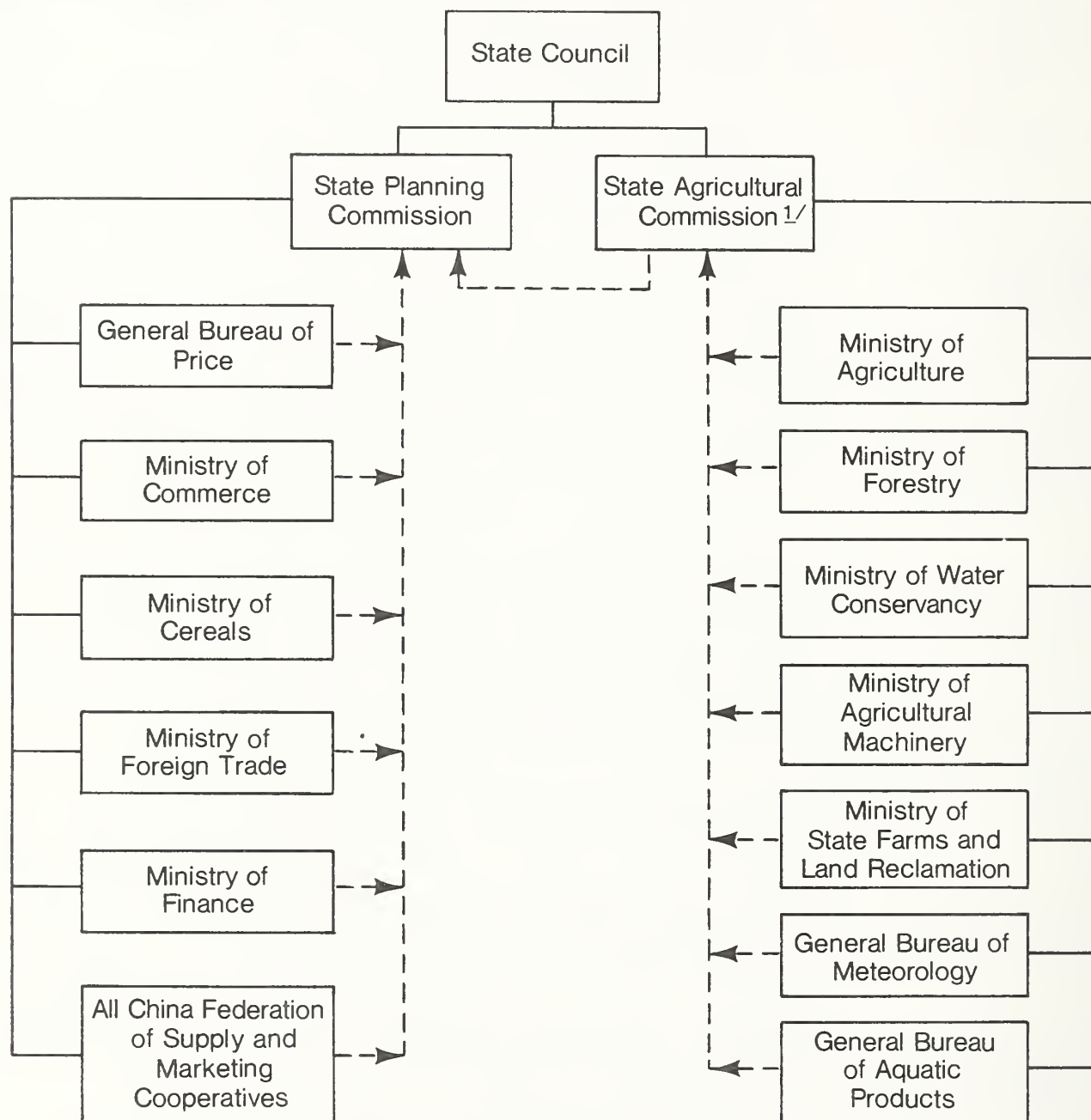
The SC is the chief executive and administrative body of the national Government. This council is responsible and accountable to the NPC. The SC, composed of the Premier, Vice Premiers, Commissioners, and Ministers, exercised leadership in 1980 over 13 commissions, 30 ministries, 10 offices, and numerous special agencies (fig. 1 indicates ministries and commissions related to agriculture in 1980). The number of these has since been reduced. The council also draws up and implements the state budget and the national economic plan. The ministries, commissions, offices, and special agencies form the main administrative body of the central Government.

The provincial administrative structure is controlled by a governor. The governor is usually assisted by several vice-governors and by various commissions and departments. Provincial commissions and departments receive technical guidance from their corresponding ministries at the national level, but are under administrative control of the governor.

^{6/} The full translated text of the 1978 constitution and the proposed draft of the 1982 constitution can be seen in (81, Mar. 7, 1978, pp. D-39 to D-55; and 81, Apr. 29, 1982, pp. K-1 to K-25).

Figure 1

Agencies Involved in National Agricultural Planning, 1980



— = Administrative

- - = Flow of agricultural planning process

1/ Disbanded in 1982. Functions transferred to the new Ministry of Agriculture, Animal Husbandry, and Fisheries and to the State Planning Commission.

For example, provincial agricultural commissions corresponded to the now disbanded State Agricultural Commission (SAC) at the central level. The provincial commission accepted technical assistance from the SAC. It is, however, under the administrative supervision of the governor of the province.

The prefectural government is a regional organization, delineated mainly by geographic and agricultural characteristics, which governs a number of counties within a province. The prefectural government delivers or conveys policies and statistical reports between counties and provinces.

Counties in China follow the provincial and national models, and are led by a county chairperson. Different commissions and bureaus in a county government also correspond to the commissions and the bureaus at provincial levels, but on a smaller scale.

Communes--numbering more than 53,000--are the basic governmental and administrative units in the countryside. When the new constitution is ratified, the xiang (township) is scheduled to replace the commune as the basic unit of local government. The number of other administrative units are: county, 2,300; prefecture, 220; provincial, municipal, or autonomous regions, 29; and central, 1 (36, p. 35; 88, p. 4).

The major administrative organizations subordinate to the SC and responsible for agricultural production, development, and planning in 1980 were the SAC, Ministries of Agriculture, Forestry, Water Conservancy, Agricultural Machinery, and State Farms and Land Reclamation; General Bureau of Aquatic Products; and the General Bureau of Meteorology.^{7/} Figure 1 shows all relevant national level organizations which had a bearing on agricultural planning work in 1980. Dashed lines in figure 1 depict the flow of plans through the planning process at the national level. The direction of the flow is shown only one way, but there was a two-way flow between the SAC and the ministries.

The SAC, organized in March 1979, but disbanded in 1982, had overall agricultural responsibilities as follows (67):

- o Investigate and study the experience of agricultural modernization programs in China and other countries.

^{7/} In 1981, the SC moved the Ministry of Agricultural Machinery from SAC jurisdiction to the State Machine Building Industry Commission. In the 1982 proposed restructuring of the PRC Government, the Ministry of State Farms and Land Reclamation and the General Bureau of Aquatic Products were merged with the Ministry of Agriculture to form the new Ministry of Agriculture, Animal Husbandry, and Fisheries. At the same time, the Ministry of Cereals and the All China Federation of Supply and Marketing Cooperatives were merged into the Ministry of Commerce. SAC was abolished.

- o Guide research.
- o Provide guidelines and policies for increasing agricultural production.
- o Confer jointly with the State Planning Commission (SPC) to formulate long-term and annual agricultural plans with responsible ministries and departments.
- o Plan and arrange for distribution and use of capital and inputs for the agricultural sector.
- o Evaluate and implement national or large and important agricultural construction projects for the nation.
- o Coordinate work among various agriculture-related ministries and various ministries at the national level and corresponding departments of local governments.
- o Solve important and critical problems of China's agricultural work.
- o Guide the work of provincial-level agricultural commissions and relevant departments at local government levels (61).

The Ministry of Agriculture as constituted in 1980 was organized much as it was when the Indian delegation visited China in 1956 (28):8/

- o Administrative Office
- o Personnel Bureau
- o Planning Bureau
- o Science and Technology Bureau
- o Foreign Affairs Bureau
- o Grain and Oilseed Production Bureau
- o Economic Crop Production Bureau
- o Land Utilization
- o Seed Bureau
- o Agricultural Engineering Bureau
- o General Animal Husbandry and Veterinary Bureau
- o General Commune-run Enterprise Management Bureau
- o Commune Management Bureau
- o Plant Protection Bureau
- o Education Bureau
- o Supply Bureau
- o Methane Gas Bureau
- o Veterinary and Biological Pharmaceutical Inspection Institute
- o Plant Quarantine Center
- o Agricultural Publishing House
- o Pesticide Evaluation Institute

8/ The organizational structure of the new Ministry of Agriculture, Animal Husbandry, and Fisheries has not been published.

- o Methane Gas Institute
- o Environmental Protection Institute
- o Scientific and Educational Instrument Corporation
- o Advanced Agricultural Schools
- o Chinese Academy of Agricultural Sciences (32 research institutes)
- o Chinese Academy of Agricultural Engineering and Design
- o National Agricultural Exhibition Hall
- o China Seed Corporation
- o National Breeding Stock Import-Export Corporation
- o National Agricultural Film Studio (64).

Agricultural planning work often required more information than could be obtained from agencies directly under the SAC. Other ministries or organizations most often referred to by PRC officials included the State Statistical Bureau (SSB), the All China Federation of Supply and Marketing Cooperatives, Ministry of Commerce, Ministry of Cereals, Ministry of Foreign Trade, and the General Bureau of Price. These institutions were under the control of the SC.

Provincial and county governments had agricultural commissions similar to the one at the national level (64). For example, there were provincial agricultural commissions with subordinate bureaus including agriculture, forestry, and agricultural machinery.^{9/}

Figure 1 illustrates only the horizontal structure of the organizations involved in agricultural planning work. The vertical structure of the agricultural planning organization is also important. There are two vertical coordinating structures involved in agricultural planning. One is called the agricultural planning system and the other is called the comprehensive planning system.

The agricultural planning system is formed by the agriculture-related ministries at the national level down to the corresponding bureaus at provincial and county levels. Each ministry or bureau has a planning bureau, division, or section in charge of both annual and long-term agricultural planning. For instance, the county-level planning sections, under each of the agriculture-related bureaus, initiate their annual or long-term plans and then send them to the county agricultural commission as well as to the relevant provincial departments. The same procedure is repeated at provincial levels until plans reach the national level. Planning bureaus under ministries subordinate to the SAC submitted their own plans to the SAC through their respective ministries. The SAC planning bureau was responsible for coordinating and balancing the plans submitted from different ministries and then reporting to the full SAC and the SPC. These organizations which initiated, coordinated, and balanced the plans formed the agricultural

^{9/} The 1982 government reorganization plan suggests that provincial-level adjustments will be made after national-level institutions are restructured.

planning system. However, all organizations mentioned above were under administrative control of their respective governments with technical assistance provided by counterparts at upper administrative levels (27, pp. 12-13).

The comprehensive planning system focusing on the entire economy specifies another channel in China's planning work and consists essentially of all planning commissions at various government levels. Each administrative level has a planning commission. Agricultural production plans are eventually integrated into the overall plan by these planning institutions which usually have the final say in the drafts of plans. The approved drafts of plans are sent not only to government bodies at the same level but are also submitted or passed to the planning unit at the next higher level (27, pp. 12-13).

The agricultural and comprehensive planning systems illustrate an important feature of China's administrative structure: the two-track or double-track system. This system requires that a subordinate unit prepare two copies of reports, one to be sent to its specialized controlling agency, and the second to be submitted to the local unit of government (37). When a provincial agricultural plan has been completed, the planning section of the provincial bureau of agriculture sends off two reports. The first is sent to the Ministry of Agriculture in Beijing. The second is sent to the provincial government.

In summary, there are two systems in China's agricultural planning process. One is the vertical system which connects the responsible ministries and general bureaus at the central Government level with their corresponding departments or agencies at the local government level. This vertical system is known as the "tiao" system. The second is the horizontal system in which a government unit in the hierarchy coordinates comprehensive planning work among the bureaus at the same level. The horizontal system is recognized as the skeleton of China's agricultural planning work and is referred to as the "kuai" system. Integration of vertical and horizontal planning work is carried out not only at the central Government level, but also at local levels as well. The final work of integrating both vertical and horizontal planning was conducted by the SAC at the national level. The finalized draft plan is sent to the SPC (70).

Planning Environment

There are three patterns of ownership of the means of production. First, there is socialist ownership by the whole people. Most of China's light and heavy industrial enterprise falls into this category. State farms also belong to this classification. Second, there is socialist collective ownership in which ownership is vested in some type of collective enterprise. Communes, which account for most of China's agricultural enterprises, fit in this category (83). Third, there is still some private ownership left in China; some farm families own their homes and control household production activities.

Because the means of production in state farms are owned by all the people, the government has the prerogative to issue orders and mandates and has the responsibility for choosing managers and compensating the state farm labor force. State farms clearly lie within the sphere of state planning.

In the commune system, however, the means of production such as equipment and land are collectively owned by farmers living within commune boundaries. The production team, not the central Government, is responsible for profit or losses, and the Government bears no responsibility for compensating peasants for their farm work.

Xue Muqiao, former head of the State Statistical Bureau and one of China's senior economists, stated that "in principle the government may issue plans to communes only as guidelines and not as binding instructions" (83, p. 59). Teams theoretically have the right to manage their production according to local conditions "with some reference to state targets after they sell major agricultural products to the state by assigned quotas" (83, p. 59). In principle, the Government should respect the teams' right to manage their own affairs. When a team completes its obligation to sell the required products to the Government, "it may decide for itself what to produce and how to produce" (83, p. 59).

Cadres have not always made a clear distinction between enterprises "owned by the whole people" and those which are "collectively owned." Planners have long applied to the collectively owned commune sector "methods appropriate only to the sector under ownership by the whole people" (83, p. 59). Xue Muqiao reported that these cadres issued binding orders to grow certain crops and forced teams to obey; the result has been misallocation of resources and large losses in agricultural production (83, p. 59).

Several terms are defined below to help readers understand planning in China's economy. Some of the definitions were distilled from conversations with China's officials and some were obtained from articles and books on planning published in China.

Direct planning (zhijie jihua) is an economic planning procedure in which mandates, orders, production targets, and procurement quotas are used to regulate economic activity. For instance, agricultural production targets are formulated by the central Government and transmitted to basic production units, leaving little flexibility to these units to make economic decisions. This planning procedure was used to control the commune system during the Cultural Revolution and is still being used to guide the state farm system (45).

Indirect planning (jianjie jihua) procedures possess the following features:

- o Production targets approved by the central Government are transmitted down the administrative hierarchy as far as the county level.
- o Under the condition of fulfilling national procurement quotas, basic production units below the commune level are given more authority to make economic decisions.
- o Various economic measures such as procurement contracts, bonus systems, price policies, and credit and loans are used to adjust and guide production activities (67).

Indirect planning is now being implemented in the commune system. The terms "direct" and "indirect planning" as used in this report fit within the framework of China's planned economy and "indirect planning" should not be construed as reliance on market forces as they operate in market economies in certain countries.

Long-term plans (changqi jihua) or long-range plans (changyuan gueihua) or (yuanjing gueihua) may cover a decade or even a 20-year period. For example, the current long-range plan covers 1980 to 2000. An example of a long-term plan is "The National Program for Agricultural Development, 1956-1967" (23). These plans identify broad goals and specify strategies to reach these goals (34, p. 146; 68).

Five-year plans (wunian jihua) in China follow Soviet examples. China's first 5-year plan began in 1953 and ended in 1957. Goals and strategies are more tightly defined in 5-year plans. For example, proposed annual rates of growth for 1981-85 and production targets for 1985 are given in the current 5-year plan.

Annual plans (niandu jihua) are formulated by the SPC, for the whole economy. For important state-owned industries, especially heavy defense-related industries, balances are worked out for consumption of intermediate and final products. For a discussion of how these balances are accomplished, see (55). Among the physical targets which have to be balanced are output of major products, consumption of raw materials, number of employees, manufacturing of new products, and rate of equipment utilization. Financial targets include profits, cost reduction, wage bill, profit taxes, and sale taxes. The parts of an annual plan are:

- o Agricultural production plan (nongye shengchan jihua): Important agricultural targets include GVAO, quantities of important and specialty agricultural products, sown area targets, number of livestock breeds, land utilization, irrigated area, mechanization and quantities of important input materials, afforested area, forestry management and utilization, quantity of forestry products, and quantity of aquatic products (27, p. 18).
- o Industrial production plan (gongye shengchan jihua): The plan fixes the quantity and speed of development for

investment in equipment, iron and steel, fuels and power, and cost of materials.

- o Transportation and telecommunication plan (yunshu he youdianjihua): The goal of the plan is to guarantee rapid transportation of agricultural and industrial goods, inputs, people, and information.
- o Basic construction plan (jiben jianshe jihua): This plan reflects construction or expansion of fixed assets. Targets include area of new buildings constructed and new plant capacity.
- o Material supply plan (wuzi gongying jihua): This plan guarantees that entities within the state economic system receive the necessary materials to meet production targets, and that firms use these materials efficiently. Targets include quantity of materials needed, quantity of materials to be distributed, and utilization quotas.
- o Labor wage plan (laodong gongzi jihua): The labor plan allocates workers to the various sectors in the economy and reflects increases in labor productivity. It also reflects compensation for workers and employees.
- o Commercial goods circulation plan (shangpin liuzhuan jihua): Linking production and consumption, this plan reflects the path which consumption and production materials will take. Its important responsibility is to match supply and demand. Targets include quotas for commodities retailed, procurement quotas, quantities of goods to be sold, quantity in stock, purchasing power, and balance between supply and demand of commodities.
- o Foreign trade plan (duiwai maoyi jihua): Included in this plan are revenue and expenditure for foreign trade, quotas for imports and exports, and quantities of goods to be exported and imported.
- o Education and culture plan (shehui wenhua sheshi jihua): Culture, science, education, and health items are included in this plan. It improves the welfare of the people and guarantees improvement in the quality of life.
- o Cost plan (chengben jihua): This plan aims to reduce costs of production. It is calculated according to labor productivity rates, prices of raw materials, energy, and supplies.
- o Price plan (jiazhi jihua): Its purpose is to set prices for all products. It sets correct price ratios among industrial and agricultural commodities.
- o General financial plan (Zonghe caizheng jihua): This plan reflects the balance of financial, monetary, and capital receipts and expenditures in the national economy. The plan assures balance between general finances and material goods.

o National stock plan (Guojia chubei jihua): The plan includes increases in national stocks, rotational quantities, and quantities in stock (27).

Central Budget Allocation

An important part of China's planning environment is the allocation of the central Government's budget. The portion of China's financial budget regularly allocated to the agricultural sector can be classified by: (1) agricultural capital construction investment, (2) agricultural operating expenses, and (3) circulating capital for agricultural enterprises (66). In addition, there are other types of expenses, such as capital required for development and reform of agricultural enterprises, and funds for the trial manufacture of new products. These funds, however, are not regular or recurring expenses.

Investment funds for agricultural capital construction are appropriated directly from the central Government's annual financial budget and go to various agricultural agencies. Funds are used to reclaim farmland, develop forests, build farm machinery and meteorology stations, and construct medium and large water control projects.^{10/}

Agricultural operating expenses are the funds earmarked by the central Government for operating expenses of the administrative units. The funds are mainly used to (1) pay the wages and salaries of government workers or employees engaged in agriculture and for administrative expenses; (2) subsidize construction of small irrigation systems, wasteland reclamation projects, and purchases of large farm machines by the communes; and (3) support development programs in backward areas (66).

Circulating capital is the fund set aside by the Government for working capital appropriations for production in state-owned enterprises. In agriculture, these funds go to state farms; the commune system is not included. The total amount of this appropriation is adjusted annually according to production plans and financial management conditions of the enterprises (66).

The general capital investment principle is to obtain the largest economic effect in return for the least amount of investment. However, the criteria for capital investments in the agricultural sector are modified in the case of some big projects such as irrigation, power generation, and flood control which require a large capital investment, have a long construction period, and are vital to the country (66).

Rural Credit

The banking system is a second channel for financing agricultural development. The National Agricultural Bank System, reestablished in 1979, is funded from the central Government budget. The Rural Credit Cooperative System is funded by deposits from communes, brigades, teams, and private

^{10/} Medium and large reservoirs are defined by the Ministry of Water Conservancy as those with a storage capacity between 10 and 100 million cubic meters and over 100 million cubic meters, respectively.

individuals. These two banking systems provide the primary financial institutions which grant production and capital investment loans. Two different interest rates are applied to loans. One rate applies to loans granted to production units purchasing agricultural machinery or building small hydroelectric stations. The annual rate is set at 2.16 percent (0.18 percent per month); the repayment schedule ranges from 1 to 15 years. The second type of loan granted is for production expenses, circulating funds, or working capital for commune and state farm production units. The interest rate on these types of loans is higher, at 4.32 percent per year (0.36 percent per month); the repayment period is limited to 1 year (66).^{11/}

Agricultural Tax Policy

Most production units pay their tax in kind, normally grain. The PRC promulgated the "Regulations on Agricultural Taxation" in 1958 in which the average tax rate was fixed for the whole nation at 15.5 percent of an hypothetical norm of grain output for each taxpaying unit (20). The Government holds the tax base (normal output) constant for set periods of time, which creates a strong incentive for farmers to increase yields and output, because production in excess of the "normal output" is not taxed. Because of this policy, the actual amount of grain tax paid each year as a proportion of total grain production has fallen from 12.2 percent in 1952 to 3.2 percent in 1979. Taxes can be reduced or eliminated if production decreases because of calamities. Also, taxes can be reduced for farmers living in disadvantaged areas. Minimum standards for per capita grain consumption are set, and if rations fall below the standard, taxes are exempted. China exempted 2.35 million tons of tax grain in 1979 because of the policies noted above (66).

A second set of rural taxes is that on commune unit and brigade enterprises. Such enterprises have grown rapidly in the last few years. The Government adopted a policy of low tax rates; in some circumstances, taxes are exempted for these enterprises. The business tax varies according to the types of commodities manufactured. The profit tax on an enterprise's profit is fixed at 20 percent of the profit above a minimum level. Enterprises directly related to agricultural production or which produce commodities and service items needed to improve commune members' livelihood are not liable for these taxes. All small-scale iron ore mines, coal pits, power stations, and cement factories run by commune units or brigades are also exempted from paying business and profit taxes for 2 to 3 years after initial production begins.

Price

China's leaders feel there have been serious problems with price differentials between agricultural and industrial products. Since 1949, policies have been carried out to gradually improve the terms of trade of agricultural products with respect to industrial products. Procurement prices in 1978 for agricultural and sideline commodities were, on average, 107.3

^{11/} More information about current savings and loans rates can be found in "Financial Overview of the PRC." See (80, No. 77,058, Dec. 29, 1980, pp. 20-29).

percent over those of 1950. By contrast, retail prices of industrial products sold in rural areas increased only 9.8 percent in the same period. Farmers now may obtain twice the value in industrial products for the same value of agricultural products as they did in 1950. Furthermore, prices of various inputs such as chemical fertilizers, pesticides, and farm machinery in the past 30 years were reduced many times with an average decrease in all input prices of 48 percent (66).

From 1966 to 1976, however, procurement prices remained unchanged. In addition, the rate at which modern inputs were allocated to the agricultural sector increased faster than production, pushing up production costs. Since the increased costs were not properly compensated for or subsidized, development of agriculture and sideline production slowed during the period. Procurement prices of agricultural and sideline products in 1979 were adjusted significantly upward. Commodities involved in the increases included grains, cotton, oilseeds, hemp and jute, sugarcane, sugar beets, hogs, cattle, sheep, goats, fish, eggs, milk, cattle hides, aquatic products, silk cocoons, and timber. The average increase in the procurement prices for the 18 major products was 24.8 percent (66).^{12/}

Other than required sales of agricultural commodities at fixed procurement prices, farmers are allowed to sell their remaining products to government purchasing stations at negotiated prices which range between the procurement and premium prices. Moreover, products grown or raised on private plots or privately produced by the commune members can be sold in small rural or town markets. The prices in these markets are negotiated between buyers and sellers within the limits set by the Government.

To protect real incomes and living standards while procurement prices were rising, the Government stabilized retail prices for basic foodstuffs: grains, edible oil, and sugar. The increased purchase costs were subsidized entirely by the Government. Retail prices for eight nonstaple food items such as meat, eggs, fish, and milk were raised in late 1979. The Government tried to offset the price increase by increasing the wages and salaries of government workers or employees. In 1980, the Government estimated that a total of about 12 billion yuan would be granted to subsidize basic consumer goods such as grains, cotton cloth, edible oil, meat, eggs, vegetables, and coal for civilian use.

The rise in the procurement prices of major agricultural products in 1979 had a favorable impact on farmer's initiative and agricultural output rose. Total income for 1979 generated by the rural collective economy rose 11.3 percent over 1978, and

^{12/} Prices for various commodities were published in (63). Hog procurement prices were raised by 26 percent and prices for beef, mutton, goats, and eggs were increased by over 20 percent (81, No. 208, Oct. 25, 1979, pp. 1-12).

average per capita income from the collective economy (including the imputed value of grain rations) reached 83.4 yuan, an increase of 9.4 yuan above 1978 (53; 64). These increases compare with the total increase of only 10.5 yuan between 1965 and 1976.

Marketing

Another significant part of the planning environment is the government purchase and control of agricultural commodities. Agricultural commodities in China are classified in three categories. Commodities of great importance to consumers and products controlled by the SC and included in the "planned purchase and planned supply system" are called category I goods.^{13/} Popular consumption items, products grown in concentrated areas, and commodities important for export are all controlled by the SPC or by major ministries. They are considered category II goods. Other agricultural commodities controlled by local governments are category III goods (table 7; also 20; 87).

Agricultural commodities in the three categories enter the government-controlled marketing system via four marketing channels: monopsony, quota, special contract, and traditional markets. In the monopsony (tonggou) system, the Government has reserved for itself the exclusive right to purchase specified commodities. For example, government administrative units and production units are given assignments to produce fixed quantities of cotton which can only be sold to purchasing organs of the central Government. Category I goods (grain, cotton, and edible oils and oilseeds) have been purchased by this system. Only cotton is now purchased by the monopsony system.

In the quota (zhenggou) system, the Government fixes normal yields for production units. The Government allows these units to deduct quantities for seed, feed, agricultural tax, and for direct consumption at the farm level from normal production levels. The Government reserves the right to purchase a fixed quantity of the excess commodity left in the production unit at a government-fixed price. The quota is often referred to as a procurement contract in which production units agree, for example, to deliver specified quantities of grain in return for fixed amounts of cash. Production units sometimes receive preharvest partial payments on their contracts to help them ease their cash requirements to purchase inputs during the growing season. Most grain and oilseeds entering government storehouses come through the quota system. Production units are required to deliver contracted quota commodities to the Ministry of Cereal's management office or cereal bureau at the commune or county level. Deliveries of agricultural taxes (grain) are handled separately from quota grain deliveries even though production

^{13/} From 1951-57, the Government controlled the purchase, distribution, and specific quantities of goods which the Government bought at fixed prices. Rationing systems were established in urban and rural areas and citizens with proper ration coupons were permitted to buy controlled commodities at fixed prices (20).

Table 7--Classification of agricultural commodities by marketing categories, PRC

Marketing category and class	:	Commodities included	:	Marketing category and class	:	Commodities included
I:	:		:	II: continued	:	
Grain	:	Rice, millet, barley	:	Catalpa	:	Including oil and timber.
	:	wheat, corn, sorghum,	:		:	
	:	broad beans, and other	:		:	
	:	grains including	:	Raw lacquer	:	
	:	tubers and pulses.	:	Palm	:	Includes palm fiber, palm woven fabric, and woven rope.
	:		:		:	
Cotton	:	Including short	:		:	
	:	staple, cotton,	:		:	
	:	batting, cotton yarn	:		:	
	:	and, homespun cotton	:	Black	:	
	:	yarn.	:	mushrooms	:	
	:		:	Walnuts	:	
Edible oils and oilseeds	:		:	Walnut kernels	:	
	:		:	Tobacco leaf	:	
	:		:	Honey	:	
II:	:		:	Lotus seeds	:	
Pigs	:	Including 60-kilogram	:	Firewood	:	
	:	fat pigs, fresh and	:	Charcoal	:	
	:	cured pork.	:	Dragon grass	:	Fuel.
	:		:	Oriental	:	
Cattle	:	Including discarded	:	medicines	:	
	:	draft and beef	:	Native sugar	:	
	:	animals.	:	Animal hides	:	Including cattle, sheep, goat, horse, donkey, and camel.
	:		:		:	
Chicken eggs	:		:		:	
Duck eggs	:		:		:	
Fresh fish	:		:		:	
Dried fish	:		:		:	
	:		:	Hog bristles	:	
Vegetables	:	Produced by special	:	Gall nuts	:	
	:	vegetable production	:	Pine resin	:	
	:	teams.	:	Tea leaves	:	
	:		:	Cork	:	
	:		:		:	
Pine and fir timber	:	Including logs and	:		:	
	:	and lumber.	:	Silk	:	Including tussah and mulberry silk cocoons.
	:		:		:	
	:		:		:	
Bamboo	:	Pieces and strips.	:		:	
	:		:	III.	:	Commodities not classified in category I or II above are by definition assigned to category III.
Hemp	:	Including jute,	:		:	
	:	linen thread,	:		:	
	:	and hemp rope.	:		:	
	:		:		:	
	:		:		:	
	:		:		:	
	:		:		:	
	:		:		:	
	:		:		:	

Source: (87).

units are required to take the commodities to the same government-operated purchase center.

As an adjunct to the quota system, the cereal management office and cereal bureaus encourage production units to sell more grain. Units which have delivered their quotas and still have surplus grain or oilseeds which they could sell are induced to give up a portion of these commodities at exchange prices, above the regular quota price.

In the special contract (paigou) system, representatives from central and provincial governments make special contracts with production units to produce commodities, primarily those in category II. For example, supply and marketing cooperatives sign contracts with production units on Hainan Island to deliver rubber and peppercorns.^{14/}

Traditional village markets have been opened once again in recent years. Local government committees manage the markets which mostly handle category II and III commodities. Participants in these markets include individual farmers selling category I, II, and III commodities from their private plots, and production teams selling category II and III commodities. Category I commodities such as grain and oilseeds can enter these markets only after quota and above-quota assignments have been fulfilled. Representatives from government ministries also attend these markets to purchase commodities at negotiated prices and to use government commodity stocks to stabilize prices (40; 57).

Production Responsibility Systems

Production responsibility systems are used in communes, state farms, and enterprises to motivate people to work. The systems generally take the form of a contract in which workers agree to accomplish certain tasks or produce a given output in return for an agreed-upon reward. Various kinds of responsibility systems were used in collective farms in the early fifties and in communes in the early sixties. During the Cultural Revolution, a vigorous attempt was made to abolish the use of these systems in communes. The production contract to household (bao chan dao hu) method was forbidden because it too closely paralleled landlord-tenant relationships.

After the Cultural Revolution, production teams began to use production responsibility systems again to encourage farmers to increase output. Production contracts to households were not sanctioned for use by the Government and party, however, until 1981. Some production teams have even gone so far as to use the technique in which teams assign specific plots of land to households to manage in exchange for delivering fixed output quotas, or the (bao gan dao hu) method. In 1982, 90 percent of China's production teams were using some kind of responsibility system to promote expansion of output.

^{14/} More detailed information on the procurement of agricultural commodities is found in a college agricultural economic textbook published in China (62).

It is unclear how employment of the production responsibility system will affect planning and statistical work in China. Preliminary indications are that the systems give farmers much greater latitude in making economic decisions. For example, output of cotton and tobacco in 1981 may have risen more than China's planners scheduled because farmers working under the responsibility system planted more area than the Government planned for, and farmers took better care of their crops than was anticipated.

General Planning Procedures

PRC planning includes four phases: (1) investigation, research, and analysis of data; (2) integration, balance, and formulation of plans; (3) review, approval, and transmission of plans to lower levels; and (4) implementation, evaluation, and summarization (67).

Investigation, Research, and Analysis of Data

Before plans are drawn up, a comprehensive and relatively detailed investigation is made of the entire process of agricultural economic development. Subjects investigated and studied include: (1) natural conditions; (2) social and economic conditions; (3) current production of various agricultural subsectors; (4) present status of material, financial, and labor resources in the economy and their distribution among the five subsectors of agriculture; (5) current production costs and prices of agricultural commodities; (6) present demand for agricultural and livestock products in the agricultural sector and in various sectors of the national economy; (7) current distribution of revenue among farmers; (8) possible capital investment in agriculture from the Government; and (9) the total supplies of agricultural inputs. Regional differences are significant because China has a huge land area. Therefore, in the process of investigation and research, attention is paid to regional variations in solving problems. Suggestions or conclusions about the five subsectors of agriculture are supposed to be as objective and practical as possible to provide the best information for formulating agricultural plans (67).

Integration, Balance, and Formulation of Plans

Government planners in China must make the agricultural plan consistent with the entire national economic plan. The agricultural plan should help coordinate and balance development among all subsectors, especially with respect to demand versus production capability, capital accumulation versus consumption, and the proportions allocated among all components or subsectors. Plans can be effective only if they emphasize overall as well as balanced development. The first 5-year plan (1953-57) was relatively balanced and agricultural economic development was rather successful (67). But, during 1958-61, mistakes--including unrealistic production targets--were made in formulating agricultural plans. Capital accumulation rates during the 10-year Cultural Revolution were set at more than 30 percent. Planned targets set for some agricultural subsectors were impractically high and too much emphasis was placed on grain production (67). Recent plans have sought to rectify these mistakes.

Review, Approval,
and Transmission of
Plans to Lower
Levels

Agricultural departments or agencies at the local administrative levels formulate plans within their jurisdictions under the guidance of the central bureaucracy. The plans are then balanced at each level and submitted to the next higher level. The final plan is sent to the SC for approval after overall balancing has been completed by the SPC. The approved plans are then handed down to the responsible ministries and to provinces, municipalities, and autonomous regions for implementation. During the review of draft plans submitted by various ministries and bureaus and by various local government levels, the SAC worked closely with the SPC to insure that plans and targets were balanced. If differences of opinion on the agricultural plan arose during the review process, the SAC consulted with the appropriate agencies to obtain a consensus (67).

Implementation,
Evaluation, and
Summarization

Implementation of the plans begins as soon as plans are approved and passed to the lower levels. Inspection teams are organized to visit local areas to assess how plans are being implemented during the growing season. The teams are supposed to solve problems which arise during implementation of the plans and insure that supplies of labor, resources, and capital are available to fulfill plan targets. These teams are also responsible for enforcing implementation of major national economic policies and plans, including disbursing national investment funds and agricultural loans, signing prepurchase contracts, granting preprocurement payments, organizing supplies of inputs (agricultural machinery, chemical fertilizers, and pesticides), and reviewing and understanding how bonus, price, and taxation policies are being carried out. In addition, by examining the periodic reports produced by the statistical system, inspection teams can assess the progress of agricultural production. Monitoring plan implementation provides a valuable early input into planning work for the next period (67).

PLANNING AND
CONTROL OF
AGRICULTURE IN 1980

This chapter describes how annual production plans are formulated and how the Government insures that plans are implemented correctly. Main findings in this chapter are:

- o Ownership patterns have an important effect on the type of planning systems used. The means of production in state farms are publicly owned and economic activity is controlled directly by the central Government. State farms draw up preliminary plans which are sent to Beijing for review and approval. When the plan returns to the local area, farm managers are expected to fully implement the plan. Indirect planning methods may be used more in the future to control state farm economic activity.
- o The means of production in the commune system are collectively owned. There are strong autonomous forces in the commune system such as local self-interest, self-reliance, and the profit motive.

- o Government institutions at the commune level use direct and indirect forces to check and control autonomous forces at the team level. Direct forces include the fixing of the agricultural tax and the establishment of proper ownership, organization, and income distribution patterns. The most important direct force is the government-mandated procurement quotas for grain, cotton, and oilseeds. Indirect forces include government control of credit, marketing facilities, water, electricity, and machinery.
- o Plans for the commune system have four parts. First, production targets are fixed for major grains, cotton, and oilseeds. Second, capital construction plans are made identifying projects and sources of investment funds. Third, plans are laid to purchase agricultural commodities. Fourth, agricultural input plans are formulated to insure adequate supplies of water and fertilizer.
- o During the Cultural Revolution, the Government used direct planning methods such as issuing production targets, orders, and contracts to control the economy.
- o By 1980, a shift occurred in setting procurement contracts so that teams were told they had to produce a given quantity of category I and II commodities, but were allowed to decide for themselves how to fulfill the contracts. Indirect forces, prices, taxes, credit, and autonomous forces became important forces in selecting production techniques.

State Farm Planning

The central Government controls long-term, annual, and seasonal plans for state farms. Annual plans, once approved, may not be revised. But, in case of serious natural disasters, they can sometimes be adjusted in June or July (45).

Each state farm draws up a preliminary plan in August or September which lays out next year's production programs and construction projects. The plan is based on national objectives and policies as well as the projected percentage changes over the current year's production plans and construction items. Provincial bureaus of state farm and land reclamation summarize and balance the plans from the various state farms within their jurisdictions. The draft plan then goes to the provincial planning commission; at the same time, a copy is sent to the successor agency of the Ministry of State Farms and Land Reclamation in Beijing.^{15/}

The provincial planning commission in each province receives draft plans from the provincial state farms and land reclamation bureau and from other agencies and incorporates these plans into the comprehensive plan. The provincial planning commission sends one copy of the comprehensive provincial plan to the SPC in Beijing.

^{15/} In 1982, the Ministry of State Farms and Land Reclamation became part of the new Ministry of Agriculture, Animal, Husbandry and Fisheries.

The successor agency of the Ministry of State Farms and Land Reclamation studies and balances the plans, which it receives from the double-track reporting system. One set comes from provincial planning commissions and the other set comes from provincial bureaus of state farms and land reclamation. The Ministry combines the provincial plans into one national draft plan which includes both production and construction targets. These plans, still in draft form, are submitted to the SPC and a copy is sent to the successor agency of SAC.

The SPC, with plans in hand from the provincial planning commission and the Ministry of State Farms and Land Reclamation, integrates plans for state farms into the comprehensive plan for the whole economy. The SPC usually holds an annual national planning convention in November or December. During the meetings, SPC officials review national goals, policies, and resources available, including labor and material, and formulate a draft plan in consultation with the responsible ministries of the State Council and with the provincial-level planning commissions. The draft plan is submitted to the National People's Congress for approval before becoming the official national plan. After the plan has been approved, the portion of the plan relevant to the state farm system is then passed down from the Ministry of State Farms and Land Reclamation to bureaus at provincial levels and finally to state farms. This type of planning is called the direct planning method and is significantly different from the systems used to plan for the commune system which is described in the next section.

The labor plan, consisting of wages, use of labor force, and plan for employment of labor, is included in the state farm agricultural plan. All employees working for state farms are paid monthly wages just like those employed in state-owned factories in the industrial sector.

Officials of the Ministry of State Farms and Land Reclamation recognized certain inflexibilities in the direct planning method and reported two problems with their planning work. First, too many farm activities have been included in the plans and the plans are too detailed and too inflexible. All aspects of farm activities have had to closely follow plan targets, and state farm managers have not been given much authority to make on-the-spot decisions. Second, state farm management has been based mainly on administrative fiat; economic principles have not always been followed (45).

Officials suggested that all state farms should be given more self-management authority to improve planning work. For example, except for some grain output quotas, procurement quotas could suggest, rather than dictate, what should be sold. Output quotas for other agricultural commodities may be gradually changed to serve as guidelines. Farms could be allowed to arrange production tasks according to local conditions as long as production targets were fulfilled (45).

Commune Planning

This section briefly describes (1) the institutions in the commune system; (2) the direct, indirect, and autonomous forces which affect basic economic decisions in farm production units like the production team and households; and (3) how the Government and party manipulate institutions and force them to control and plan agriculture in the commune system.

Basic Level Institutions and Activities Defined

Government and party leaders have conflicting views of the commune system. They like the system because, with the means of production collectively owned, the state escapes the burden of paying wages and allocating subsidies to cover production losses. Most important of all, the leaders like the system because it generates considerable enthusiasm among farmers to increase agricultural output. Leaders are also uneasy because the Government does not own the means of production and it has difficulty controlling the system. They fear that the autonomous energy generated in production teams might get out of control and destroy the entire socialist system.

China's leaders have tried with varying degrees of success since 1958 to institute policies and establish institutions which would satisfy their need to control rural economic behavior, but which would not dampen incentives for farmers. Commune system institutions and activities which affect rural economic decisions are described below.

Rural free markets: Marketing centers have functioned for centuries in rural China. These markets were closed or tightly regulated during the Cultural Revolution, but are now permitted. There were 38,000 rural free markets in the fall of 1980 (63, Mar. 18, 1981, p. 9). These markets are supervised by local government market committees (77, No. 142, July 24, 1981, p. K-8).

Grain stations: Grain stations operated by the Ministry of Cereals are the only institutions permitted to purchase quota and above-quota grain from teams. Grain deficit households and government personnel who possess approved grain ration coupons and who are stationed at the commune level can purchase grain in these stations.

Government stores and supply and marketing cooperatives: Commune supply and marketing departments manage government stores which were operated by the Ministry of Commerce before 1958 (20, pp. 287-294). The commune supply and marketing department also manages the supply and marketing cooperatives. Such co-ops purchase some category I, II, and III products on behalf of the Government and sell consumer goods to households and inputs to teams and households (82).

Commune Committee, Chinese Communist Party: Each commune has a CCP committee with various departments such as youth, women, and military affairs. Party branches are organized at brigade level and party cells are organized in teams if there are enough party members in the unit (17, pp. 378-379).

Commune government: Commune people's congresses elect the commune chairpersons and the commune management committees which function as the lowest level of government in China. Departments included in the commune government are political-legal, cultural-educational, health, commerce, water conservation, agriculture, forestry, animal husbandry, and military affairs (18).

Transportation: Some communes have a company which provides transportation services for a fee (56, Feb. 2, 1981, p. 4).

Agricultural extension: The commune government manages the resources of the agricultural extension system.

Education and health services: The commune's department of culture and health administers resources for these social services. The commune level has a library, a middle school, and a hospital. Brigades operate primary schools and clinics (17, pp. 381-383).

Farm machinery: Communes have machine tractor stations which custom plow for teams. Tractor stations in communes and brigades now number about 150,000 (8, No. 1, Jan. 6, 1981, p. 44). Some communes have farm machinery manufacturing and repair facilities. Teams sometimes have their own tractors and implements.

Electricity: The commune government either manages the generation and use of electricity alone, or does so in concert with other communes, or larger administrative units such as the county, prefecture, or province (78).

Water control: The commune government has a major local role in managing irrigation and drainage water in close liaison with upper levels of government (80, EC, No. 76,987, Dec. 11, 1980, pp. 46-50).

Financial services: Rural banking institutions at the commune level perform three functions in China. First, they serve as centers where production units can deposit and withdraw cash. Second, they are loan centers where units can apply for production loans and households can apply for consumer loans. Third, these institutions serve as accounting centers which monitor rural financial transactions and insure that financial exchanges are consistent with government and party policies (80, AG, No. 78,176, May 28, 1981, p. 53). There are 26,000 agricultural banks and 62,000 agricultural credit cooperatives in rural areas (80, AG, No. 75,942, Jan. 26, 1980, p. 73).

Private production activity: Households may engage in private production, providing the activity does not seriously damage the collective economy. The average size of private plots is estimated to be about 247 square meters per household (81, No. 62, Apr. 1, 1981, p. K-10). Household sideline production includes weaving baskets, cutting hair, and mending clothes.

About 30-40 percent of household annual income comes from private production (80, AG, No. 77,200, Jan. 19, 1981, p. 1).

Relationships Defined

The following discussion explains the major relationships which exist between basic-level institutions and activities.

Households and production teams: Households, upon joining production teams, invested their means of production and tacitly agreed to be remunerated thereafter only on the basis of the labor that household members contributed to team output. Teams pay taxes; pay for production expenses; save some funds for depreciation, capital investment, and welfare; and allocate the residual to team members on the basis of labor.

Households and private production: Households can generate additional income by allocating household labor and capital to private production. Households can obtain returns to labor and capital either in the form of vegetables and fruits, or in cash from the sale of produce or animals.

Households and rural free markets: Households enter rural free markets as both sellers and buyers. Households sell produce from their private plots and purchase items they need from other households participating in the same markets.

Households and grain stations: If households have officially approved grain ration coupons, they can purchase grain and oilseed rations from grain stores. Households may also sell privately produced grain or oilseeds to grain stations.

Households and government stores (supply and marketing co-op): Households relate to the government store in three ways. First, they purchase some of their consumer goods in the store. Second, households may sell cotton and various category II and III products to the store. Third, households may purchase some inputs for their private production activities.

Households and banks: Households may deposit money in savings deposits in agricultural credit cooperatives and earn interest on the balance kept there. Households also may apply to the credit cooperatives for short-term consumer or individual loans.

Production teams and rural markets: After teams have fulfilled the government procurement requirements (quota and above quota), they may sell their residual products in rural markets. They also may purchase commodities for team use in the same markets.

Production teams and grain stations: Teams deliver tax grain to the grain stations. And, they sell specified quantities of grain and oilseeds to grain stations as required by the quota system.

Production teams and government store (supply and marketing cooperatives): Teams sell cotton and contracted quantities of category II and III commodities to the stores for cash. In

turn, teams purchase inputs from the stores, such as chemical fertilizers, plastic sheets, and handtools.

Production teams and inputs: Teams depend on commune and county-level institutions to provide inputs and services. Transportation services are required to move tax and quota products to the grain station. Agricultural extension experts advise teams on how to control insect pests. Tractors from the machine stations may be needed to prepare fields for transplanting. Electricity may be required to operate irrigation pumps to save crops from drought conditions.

Production teams and banks: Team financial reserves are often deposited in accounts in branches of the agricultural bank or agricultural credit cooperatives; deposits earn 1.8 percent interest per year (80, EC, 77,058, Dec. 24, 1980, pp. 20, 66). The teams can apply to the bank or credit cooperative for production loans for which they have to pay 4.32 percent interest per year.

Forces Affecting
Economic Decisions
Classified

The Government and party aspire to have some influence on the basic economic decisions teams and households make, such as what and how much of each commodity should be produced, how goods should be produced, and for whom should goods be produced. The influences (pressures, forces, and constraints) on economic decisions made in production teams can be placed in three categories: direct, indirect, and autonomous.

Direct forces: Government institutions directly fix the amount of agricultural tax which production teams should deliver. The government procurement system issues contracts or quotas to teams to purchase specified quantities of goods. The Government fixes per capita grain, cotton, and edible oil rations. The procurement system also contracts with teams to produce specified quantities of category II products. The Government also issues regulations governing the patterns of ownership, rural organization, and income distribution.

Indirect forces: Government institutions at the county and commune level have various ways of applying indirect pressure on production teams. Government banks control the availability and price of production loans. Government-run supply and marketing cooperatives control the availability of fertilizer, farm machinery, tools, and supplies. Government-run hydroelectric projects control supplies of water and electricity. Local government committees control the selling price and the kinds of goods which can enter rural free markets. Government institutions control the supply of health, welfare, and cultural services. Local officials can use their government and party positions to persuade teams to fulfill plans or to threaten them with coercive actions.

Autonomous forces: Substantial government direct and indirect control mechanisms were constructed to counterbalance strong forces inherent in production teams. Team leaders have a deep interest in insuring basic food, fiber, and fuel needs for their

own families, the families of their relatives, and fellow villagers. The motive to increase economic well-being of team members is also strong. Teams have an interest in private plot production and household subsidiary production to maintain and raise incomes. Local team leaders and members have a comparative advantage in understanding the capabilities of their land, the kinds of crops which grow best in their climate, and crop rotation schedules. Team members, through years of effort, have a stake in capital stock such as terraced fields, leveled land, ditches, soil fertility, weed and pest control, and orchards.

All three forces--direct, indirect, and autonomous--operate at varying strengths on any given economic decision.

Production Plans for the Commune System

Planning is initiated from the top level, but lower levels play an important role in the planning process. The planning procedure for communes is called the "two down, two up" (liangxia, liangshang) system (fig. 2).^{16/}

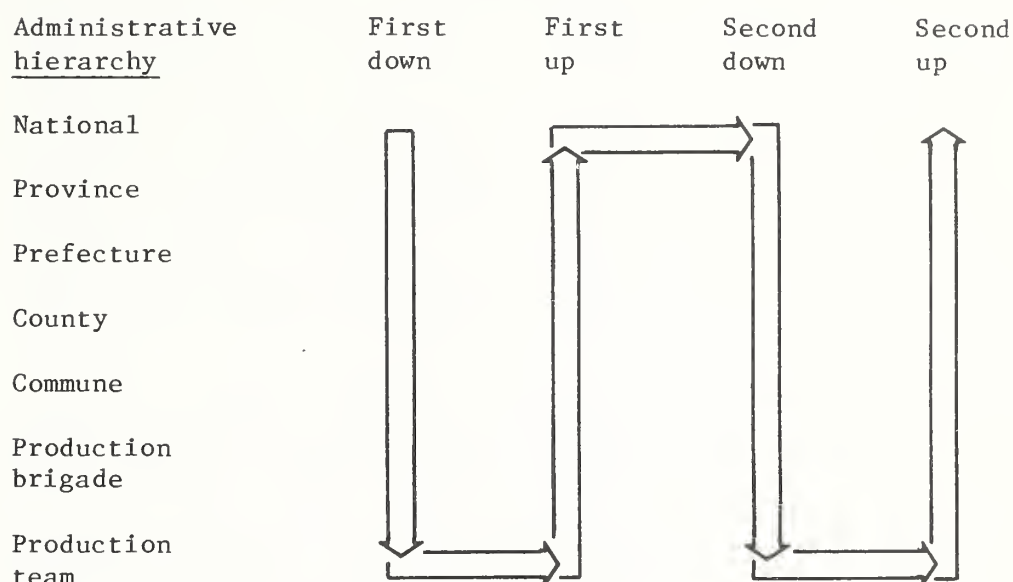
National Planning

First down: The planning process begins each autumn when a national planning meeting is held. Differences in various proposals are reconciled and plan targets out of phase with government policies are revised. When major differences have been resolved, the draft plan is sent down the administrative channel: province, prefecture, and county. At each level, a planning meeting is convened to examine the draft plan and to prepare the draft plan to be passed on to the next lower level.

First up: The first up begins when production team leaders, together with farmers, review targets sent down from above and formulate targets for producing agricultural commodities for the coming year. Team leaders enter their estimates in planning tables provided by the Government and send the completed package of forms to the production brigade. Brigade leaders make sure plans submitted by their teams coincide with goals, principles, and policies set by the CCP and SC. Problems with teams are resolved before sending the consolidated plan to the commune level. Commune leaders repeat the process initiated by brigade cadres and add items to the plan over which they have prime control such as capital construction, procurement, agricultural mechanization, and agricultural science items. The commune forwards the plan to the county government. Using the revised draft plan as a guide, counties put their revised sown area target figures in the planning tables. These revised figures are fixed by county leaders based upon their experience with local conditions and upon their consultation with leaders of lower level production units. County leaders send their planning tables to the next higher administrative unit. Cadres at the next level once again resolve conflicts. Moreover, as before, procurement, materials, and construction plans are added at appropriate stages along the way. For example, the Jiangsu Provincial Commission puts together the draft plans by

^{16/} We have featured the "two down, two up" procedure above; but, in some provinces, the procedure is altered to the "two up, two down" system.

Figure 2--Schematic view of the direction and flow of agricultural plans through China's planning machinery



consulting all the plans sent up from lower administrative units and by reconciling local target figures with the requirements fixed by the national Government. The revised draft plan is coordinated and balanced with the aid of responsible departments during the provincial planning conference. The agricultural plan is then integrated into the provincial economic plan.

Provincial plans then pass to the national SPC which subjects the plan to a process similar to that described for Jiangsu province in the paragraph above. The national comprehensive economic plan is then submitted to the State Council for approval completing the final step in the "first up."

Second down: The revised draft plan, in effect, becomes public law after the State Council approves it. The plan is then sent down through the administrative hierarchy (29). Government marketing institutions sign procurement contracts with production teams to fulfill plan requirements.

Second up: Basic production and administrative units sign the formal plan documents to confirm that the plan will be fulfilled. For example, teams producing cotton in some places are required to place their seals on three copies of the plan: one for themselves, one for the commune, and one for the supply and marketing cooperative office.

Provincial
Government Planning

Based upon national goals, policies, and tasks, the agricultural planning division of the provincial planning commission and the provincial agricultural commission coordinate and balance annual and long-term agricultural production plans with other responsible government departments, bureaus, and agencies (61). The provincial planning commission implements the plans and reviews plan progress (32).

Agricultural plans should meet national needs and conform to local conditions. The major materials used in drafting provincial plans are overall agricultural statistics, which are produced by the statistical system, materials from natural resource surveys and agricultural zoning studies, and information from various kinds of surveys. The main policy guiding formulation of plans was stated in the following dictum: "Take grain as a key link and promote all-round development, produce in accordance with local conditions and adopt specialization properly" (29). Officials indicate that a properly formulated plan would promote balanced development of the five agricultural subsectors: crops, forestry, animal husbandry, sideline enterprises, and aquatic products.

Based upon the general principle of "uniform planning but management by different government levels" the central Government manages only 16 targets or quotas, such as: GVAO, production of major agricultural products (grains, cotton, live hogs, tobacco, bast fiber plant crops, sugar, and silk cocoons), aquatic products, and afforested area. According to their own needs, provinces add such targets as medicinal herbs, green manure, fruits, spearmint, commercial vegetables, and poultry.

There are also some plans associated with agricultural production, such as those dealing with agricultural mechanization, capital construction, and agricultural scientific research. Other special plans include commune-run and brigade-run enterprise plans, material supplies plans, and credit and loan plans (32).

County Agricultural Planning

The county planning commission is subordinate to the county government and is usually headed by one of the deputy chairpersons of the county. The commission is responsible for the coordination as well as the implementation of county agricultural plans. There are several departments at the county level which have an interest in agricultural planning work. Each department has its own planning section which makes plans within its jurisdiction (2).

The county government acts as a channel in forwarding plans up to the province or down to the communes. The county planning commission synthesizes plans from its communes into a unified county plan. In formulating its plan, county planners adjust the plan according to production targets received from the provincial planning commission. County planners also receive input from county-level departments and they resolve plan conflicts between departments when they arise. County planners also adjust the plan to take into consideration local conditions and consumption requirements within the county.

The completed plan is submitted for approval to a meeting chaired by the county chairperson. After approval, the plans are passed to county departments and communes to be implemented. Officials in one county indicated that there are usually four different plans included in the agricultural plan: (1) production, (2) supplies, (3) procurement or purchases,

and distribution (4). Production plans include the production of crops, forestry, animal husbandry, sideline occupations, and aquatic products. The supply plan contains input items, such as agricultural supporting funds. The procurement plan states the delivery tasks for grains, cotton, edible oils, vegetables, livestock, aquatic products, fruits, honey, silk cocoons, and other sideline products. Finally, the distribution plan consists of the budgets for cash distribution and the distribution of grains and edible oils (2).

Commune Agricultural Planning

The vice-chairperson of the commune management committee usually has responsibility for agricultural planning and is normally assisted by a full-time staff person. In addition to resolving conflicts, planners at the commune level issue specific guidance on what, how, and when production tasks should be completed (5). Commune planners issue goals and give specific directions on what actions should be taken.

Principles followed in formulating the commune agricultural production plans are: (1) meet requirements of the national Government, (2) keep plans within the bounds set by the availability of local resources, and (3) take into account the consumption needs of commune members. The commune level is an important focal point in the "two down, two up" planning system (5). Commune cadres assemble the commune production plan from plans of the teams in its jurisdiction. Other parts in the plan are added at the commune level to form a comprehensive agricultural plan. The completed draft is submitted to the commune member congress to obtain suggestions and approval. It is then submitted to the next higher level. Commune leaders report that the "two down, two up" system forces consensus up and down the hierarchy so when the central Government's quotas or targets come down to the commune level, the targets generally can be fulfilled. Local leaders make sure targets are adjusted to match availability of local resources (5).

Annual agricultural plans at the commune level contain production and procurement targets for crops, forestry, animal husbandry, sideline occupations, and fisheries. Other plans, such as revenue distribution, financial revenue and expenditure, and capital construction are also included (5).

Commune-level planners are also required to prepare 5- and 10-year plans. Relevant departments at the county and higher levels also have to add their portions to form the comprehensive agricultural plan. Contents of these plans are roughly the same as annual plans, but do not have as much detail.

Brigade and Team Agricultural Planning

Brigades and teams are the critical link in China's planning process. Plans are drafted, written plans are implemented, vital economic decisions are made, and income is distributed at this level. The discussion below examines government uses of direct and indirect forces to guide brigade and team decisionmaking.

The central Government told production teams how much category I crops (grain, cotton, and oilseeds) to produce during the Cultural Revolution (83). Government indirect forces supported the direct procurement decisions. For example, if teams did not plant the kind of crops dictated by the plan, then the Government could use indirect forces such as limiting credit, water supplies, chemical fertilizers, fuel oil, and electricity to enforce compliance. Autonomous influences such as increasing income and private plot production activities were held in check. Sometimes, even autonomous influences such as local knowledge of cropping patterns, soil fertility, and climate were overlooked and teams were forced to grow crops not suited for their area (86; 89).

Most of China's agricultural commodities were directly controlled. For example, grain, cotton, oilseeds, and many category II commodities continue to be controlled via government procurement contracts. Grain, cotton, and oilseed sown area alone accounts for more than 84 percent of the 154 million hectares sown in the whole country. Also, despite the general move to respect the decisionmaking rights of teams, the importance of grain production to the national Government is paramount. For example, a Jilin province radio broadcast said:

Grain is the foundation of overall rural economic development and of the development of the national economy. Therefore, we must unswervingly give top priority to grain production. We should not seek the implementation of production team decisionmaking, the development of local strength and enlivening of the economy at the expense of the development of grain production (35).

Government and party pressures were strong during the Cultural Revolution to guarantee that teams maintained proper patterns of income distribution (capital accumulation rates and consumption rates), ownership, and rural organization. Private plot and private production activities were restricted as were rural free markets.

By 1980, a dramatic shift had occurred in the way teams were guided to choose production techniques. During the Cultural Revolution, teams received sown area targets for category I and II crops. By 1980, quantitative quotas were still in force, but teams were given the power to decide how procurement quotas should be filled (64). Private plots were restored and private production activities along with rural free markets were resurrected. The decline of direct forces was offset by increases in importance of indirect and autonomous forces. Especially strong was team interest in choosing production techniques which reduced production costs, thereby improving the team's overall profit picture.

Socialist statistics are an important basis for mapping out plans and policies for the national economy. They are an important means for achieving scientific management, control and supervision of the national economy (68).

China's statistical system is an essential element in the current campaign to modernize agriculture, industry, science and technology, and national defense. The SC declared that statisticians had three objectives: (1) collect, summarize, and analyze statistical data on China's economy; (2) supervise the nation's statistical system; and (3) provide data to government and party leaders and to managers of enterprises and communes.

This chapter reviews the disruptions in the statistical system during the Cultural Revolution and describes how the system functioned in 1980. Our objectives in preparing this chapter were to understand how the agricultural statistical system is organized; understand how statistics are collected and used; publish China's statistical reporting schedule so those interested in China's agricultural statistics can understand how a given series is generated and when it is to be published; provide researchers with a translation of the 1981 statistical reporting forms which production teams are required to send to Beijing; and determine the reliability of China's agricultural statistics. Central findings in this chapter are:

- o The Government did not inherit a strong statistical system when it came to power in 1949.
- o The SSB, established in 1952, made much progress before statistical work was politicized during the Great Leap Forward (1958-1960) and quality of statistics declined.
- o The SSB was disbanded during the Cultural Revolution (1966-1976). Most organizations were abolished, most statistical workers were discharged, and some statistical records were destroyed.
- o The SSB was reestablished in the midseventies, but by 1980 the statistical system had not been restored in many counties, and most communes did not have full-time statistical workers.
- o Census-type reporting is the major method China uses to collect agricultural statistics. Surveys are employed to collect special kinds of information such as rural family income and expenditure data, and to check on the accuracy of the reporting system. Standard sampling techniques are not always used.
- o State farms have their own statistical system and the SSB and the successor agency of the Ministry of State Farms and Land Reclamation require farms to report 1,550 statistical items listed in 38 monthly, quarterly, and annual report forms.

- o In the state farm system, only 10 percent of the 50,000 statistical workers are full-time employees and very few of them have been graduated from university economics and statistics departments.
- o For the commune system, the SSB and the Ministry of Agriculture, Animal Husbandry and Fisheries require production units to report about 500 items in 13 quarterly and annual report forms.
- o Both state farms and communes use the double-track reporting systems in which production units send one copy of each report to the local unit of government and a duplicate copy to the parent organization one administrative level up. The purpose of the system is to promote coordination within the same level and between different administrative levels.
- o Electronic data processing methods are coming into use in China. However, the abacus and desk calculators are still the primary calculation equipment used.

China's statistical work before 1949 was not well developed. A Bureau of Statistics was established in 1931 by the national Government and offices were set up at provincial levels. Wars and the entanglement of statistics with political intelligence emasculated the collection and use of statistics and not until 1948 was the first statistical yearbook published (37).

With the founding of the People's Republic of China in 1949 and the decision to institute Soviet-style planning, it was necessary to establish an efficient statistical system. The SSB began to function in 1952. By 1956, the Indian delegation reported that at the national level the SSB had 15 departments and 675 employees (37; 25, pp. 82-83).

China's statistical system was disrupted substantially during the frantic activity of the Great Leap Forward when cadres grossly exaggerated actual output of steel and grain. An attempt was made to restore the objectivity of the system in the early sixties. Efforts to improve the system, however, were quickly put aside with the beginning of the Cultural Revolution. The SSB was disbanded and its functions were transferred to the SPC. Many statistical organizations below the national level were also demobilized and statistical workers were discharged. Statistical records and data were also destroyed in this period (68; 76).

Restoration of the statistical system began in the midseventies with reestablishment of the SSB. In 1980, the SSB had only about 200 employees at the national level. This is less than one-third the staff it had in 1956 (73).

Development of agricultural statistical work in China generally lagged behind the development of the overall (comprehensive) statistical system. In pre-1949 China, the statistical system did not penetrate the countryside further than provincial

capitals. Nonetheless, important agricultural data were collected through surveys by the National Agricultural Research Bureau established in 1932 (61) and by foreign researchers such as Buck (9). Once the SSB was established in 1952, the Government moved to construct a statistical system down the administrative hierarchy. Statistical offices were set up at provincial levels. By the end of 1957 (the close of the first 5-year plan), however, not all county and lower administrative units had set up local statistical offices. The SSB director said in 1955 that the quality of statistics varied from sector to sector as follows: industry, fair; commerce, worse; and agriculture, worst (84; 76).

When communes were established in 1958, an effort was made to extend the agricultural statistical system to this lowest level government unit. Progress was made in Sichuan, Shanxi, Shaanxi, Henan, and Liaoning provinces in establishing SSB-recommended statistical functions such as original records (population, cultivated area, and inventory of assets), permanent statistical files, and regular statistical report schedules. Development of the rural statistical system was slower in other provinces; in early 1960, the performance of some counties and many communes was poor (37).

The rural statistical system, like the general system, was disrupted seriously during the Cultural Revolution. Sun Yehfang, a nationally known economist in China, said, "Nearly all statistics organs at different levels throughout the country were disbanded..." and "...statistical work in the whole country was suspended for almost 3 years" (76). By 1980, statistical work in many counties had not been restored and most communes did not have full-time statistical workers (76).

Statistical Organization Structures

There are three kinds of statistical organizations in China. First, there are those compiling comprehensive or overall statistics, such as the SSB, provincial-level statistical bureaus, and prefectural- and county-level statistical departments. The SSB Agricultural Statistical Group is in charge of agricultural statistical work in the country. The group's major responsibilities are collecting, summarizing, and analyzing statistical reports sent up from the provincial statistical bureaus. The SSB publishes the annual agricultural production statistics and other major indicators for the agricultural economy. Second, there are organizations such as the Ministry of Agriculture, Animal Husbandry, and Fisheries (MINAG) at the central Government level with subordinate bureaus at provincial levels which assemble specialized statistics. Third, there are basic-level organizations such as schools, hospitals, stores, enterprises, communes, and state farms which gather primary statistics and complete the reporting forms.

State Farm System

The purpose of state farm statistical work is to provide accurate data to improve production as well as construction. Statistical workers produce data which should accurately reflect overall economic activities of state farm production so management agencies can draw up and evaluate production plans (48).

State farms not only engage in agricultural production activities such as raising crops, forestry, animal husbandry, sideline occupations, and fisheries, but also support industrial enterprises which produce inputs to assist agricultural production and consumer goods for workers and employees. This is referred to in China as "taking one enterprise as a key link, but with diversified operations." The scope of state farm statistics covers not only the activities of agricultural production and construction, but also industrial production and development. Other items included are statistics on transportation, communication, commerce, wages, science and technology, culture, education, health, housing construction, and other services. The main parts included in the 1980 annual state farm statistical report were:

- o Number of enterprises, population, staff and workers, and labor force.
- o Name list of state farm enterprises.
- o Statistics on land utilization and agricultural land area.
- o Crop area, unit yield, total output.
- o Production of animals.
- o Forestry and fruit production.
- o Rubber and other tropical crop production.
- o Total value of agricultural output.
- o Major agricultural machines and equipment.
- o Output of major industrial products.
- o Conditions of transportation and construction enterprises which are independent accounting units.
- o Conditions of completion of basic capital construction projects.
- o Delivery of agricultural commodities and output of export products.
- o Profit or loss of enterprise operations.
- o Conditions of scientific, educational, and health units.

The statistical systems in state farms function under SSB leadership. At the central level, there was a six-member Statistical Division in the Ministry of State Farms and Land Reclamation. In the planning departments of the provincial bureaus of state farms and land reclamation were from one to as many as four statisticians working on agricultural statistics in the specialized professional group.

One to two full-time statistical workers are hired by individual state farms. State farm production teams usually have a part-time employee doing statistical work and often statistical work is done by the team accountant or the deputy team leader. There are about 50,000 statistical workers in the state farm system, of which only about 5,000 are full-time personnel. Very few of these workers were trained in universities. Rather, the major portion of them were trained in short-term programs or were graduates of middle schools without any professional background (47).

related ministries, such as Agriculture, Forestry, Water Conservancy, and the General Bureau of Aquatic Products. These ministries have their own professional statisticians. All ministries collect, summarize, and analyze the data or information provided through their own channels as well as publish detailed statistics within their special area of competence (73).

The SSB and the MINAG together formulate a unified set of annual and periodic reporting forms. The annual forms were first used to report 1980 yearend data and the periodic forms were used to report data in 1981. These forms are sent down by SSB and the MINAG to the provincial-level statistical bureaus and agricultural bureaus. Translations of these forms are in the Appendix.

Provincial government: Agricultural statistical work at the provincial level is generally under the coleadership of the provincial statistics bureau and the statistical division of the agricultural bureau. Despite the fact that these bureaus or general offices are under the administrative control of provincial governments, their statistical work is supervised by the SSB and MINAG at the national level. The provincial statistical and agricultural bureaus have the responsibility to conduct various types of agricultural surveys and statistical work as required by the upper level; submit statistical reports to the central level; and organize and support the agricultural statistical work at prefecture, city, and county levels within their jurisdictions (29).

Statistical workers at the provincial level blend the requirements of the comprehensive (SSB) system with the demands of the specialized (MINAG) system. The comprehensive system takes care of major production targets and indicators using the prefecture as a basis. The specialized statistical system is responsible for more detailed statistics for each of the special subjects regarding the agricultural sector (29).

County level: Agricultural statistical work at the county level is handled in the same fashion as at the provincial level. The county statistical bureau (or county statistical department within the municipality of Beijing) and the agriculture bureaus such as agriculture, forestry, livestock, aquatic products, meteorology, water conservancy, agricultural machinery, and commune and brigade enterprises manage the statistical work in the county. The number of staff members hired by the county statistical bureau and the associated bureaus varies with the needs of individual counties. For example, in Miyun county of Hebei province, six persons work for the county statistical department; three of them take care of agricultural statistical work (6). Only part-time statisticians were employed within the agricultural bureau. Eight people were engaged in statistical work in the Wuxi county statistical bureau, but only two of them compiled agricultural statistics (33).

Responsibilities of county-level statisticians are to investigate, summarize, and evaluate statistical forms sent up from lower levels. They provide statistics to important meetings held at various administrative levels as needed. They organize training programs for statisticians working in the commune system and they set standards, evaluate, and inspect statistical work at all subordinate levels.

Statistical workers in the county statistical bureau (comprehensive system) are basically responsible for major statistical indices which are often regarded as official statistics. Statistical workers in the related bureaus handle unofficial statistics regarding assessment of expected agricultural production, or other general activities such as progress of crop sowing and harvesting (33).

Commune level: Most RPC's hire part-time statistical workers, and only a few have full-time personnel. Commune units, PB's, and PT's form the backbone of China's basic-level statistical system which actually provides all agricultural statistics. Statistical workers at these lower levels fill out various kinds of yearly, seasonal, monthly, and daily reports as required by upper levels of government.

Census Reporting

Methods used to collect statistical data in China generally are similar to those employed in western countries. These methods and the kinds of reports used, reporting schedules, and the flow of the reports through the administrative hierarchy will be described in the subsections below.

The primary method used to collect agricultural statistics in China is full enumeration of census reporting. Statistical workers in production teams fill out forms sent down from Beijing and send them back through the administrative hierarchy.

The kinds of data to be secured from the collective sector and the format of the various forms are jointly determined by the SSB and MINAG. The 13 annual report forms and 3 comprehensive forms which are regarded as the regular reporting forms appear in the Appendix (see table 8).

The reporting system for state farms is largely the same as that in the commune system. The state farm report forms can be divided into daily, 5-day, 10-day, monthly, quarterly, semiannual, and annual reports. In 1979, the Ministry of State Farms and Land Reclamation distributed 34 various report forms with a total of 1,475 items. In 1980, the number of report forms increased to 38 and the number of items increased to 1,550 (48). Monthly, quarterly, and annual reports are customarily classified as regular report forms, and the daily, 5-day, and 10-day reports are termed production progress reports or production management statistical forms. The production management statistical forms are compiled by statistical workers at the team level; these forms include items such as the progress of natural rubber production and agricultural crop sowing and harvesting. Monthly reports are used for industrial

Table 8--Standard agricultural statistical forms, PRC

Report number, name, and reporting schedule	:	Reporting unit	:	Scope
	:		:	
	:		:	
Annual reports:				
1--Structure of rural people's communes. Before end of February.		Statistical and agri- cultural bureaus of provincial-level unit.		All RPC's in reporting in unit.
2--Crop sown area and production. Before end of February.	do.			All agricultural, forestry, animal husbandry, subsidiary, and aquatic production units.
3--Production of silk cocoons, tea, and fruit. Before end of February.	do.			do.
4--Forestry production. Before end of February.		Statistical bureau of provincial-level unit.		do.
5--Livestock production. Before end of February.		Agricultural and sta- tistical bureaus of provincial-level unit.		do.
6--Aquatic production. Before end of February.		Statistical bureau of provincial-level unit.		do.
7--Tropical crop production. Before end of February.		Statistical bureau of Guangdong, Guangxi, Yunnan, and Fujian provinces.		do.
8--Cultivated area. Before end of February.		Agricultural and sta- tistical bureaus of provincial-level unit.		do.
9--Yearend inventory of major agricultural machines. Before end of February.	do.			do.
10--Conditions of agricultural modernization. Before end of February.	do.			do.
11--GVAO computation table. Before March 15.	do.			do.

Continued--

Table 8--Standard agricultural statistical forms, PRC--Continued

Report number, name, and reporting schedule	Reporting unit	Scope
12--Conditions of distribution of revenue in RPC's. Before end of March.	do.	All RPC's in reporting unit.
13--Status of agricultural science organizations. Before end of February.	Agricultural bureaus of provincial-level unit.	All agricultural pro- duction units
Periodic reports:		
1--Quarterly telecommunication report on sown area, 1981.	Agricultural and sta- tistical bureaus of of provincial-level unit.	do.
a. Fall sown crop area for last year. Before January 20.	do.	do.
b. Spring sown crop area.		
(1) Early rice, spring wheat, cotton. Before end of May.	do.	do.
(2) Area of spring and fall sown crops for whole year. Before end of August.	do.	do.
2--Quarterly telecommunication report on crop production, 1981.		
a. Estimate of summer grain and oilseed output. Before end of June.	do.	do.
b. Actual output of summer grain and oilseed output. Before August 10.	do.	do.
c. Estimate of early rice pro- duction. Before August 10.	do.	do.
d. Estimate of spring wheat and spring oilseed output. Before end of August.	do.	do.

Continued--

Table 8--Standard agricultural statistical forms, PRC--Continued

Report number, name, and reporting schedule	:	Reporting unit	:	Scope
	:		:	
	:		:	
e. Actual output of early rice. Before September 15.	do.		do.	
f. Estimate of agricultural output for "whole year." Before end of November.	do.		do.	
3--Half-year telecommunication report on livestock, 1981.	do.		do.	
a. First half-year livestock conditions report. Due before July 15.	do.		do.	
b. Last half-year livestock conditions report. Before end of November.	do.		do.	

Note: See each report format in Appendix.

Source: (41).

product statistics. Quarterly reports include spring, summer, fall, and winter sown crop acreage and acreage harvested. Semiannual reports include animal production, labor wage statistics, GVIO, and statistics on capital construction (48). The state farm reporting schedule is generally in line with that of the commune system, although the Ministry of State Farms and Land Reclamation in 1980 did not specify the reporting schedules.

Both the state farm and the commune system use the two-track statistical reporting system. Following distribution of the report forms by the SSB, basic production units complete the forms which flow back up to the central Government level through the SSB system and the ministry system. Although not all the forms flowing through the two systems are completely identical, the major statistics should be comparable for the whole nation. The SSB crosschecks statistics from the two channels to assess the accuracy of reports. Sample surveys, field checks, and observations are mainly used to evaluate the accuracy of census-type reporting. Another measure used to crosscheck statistical figures is comparison of procurement data with agricultural commodity output data.

Surveys

Surveys, used to collect more complicated and detailed statistical data, are conducted by interviewers sent to the basic production units. Surveys are sometimes used to estimate the output for certain major agricultural crops such as grains, cotton, and oil-bearing crops and to check if there are errors in the results obtained through the census system. In other cases, surveys are employed to collect special statistics which are unlikely to be collected by the overall reporting system; for example, rural family income and expenditure items.

Surveys of Agricultural Crop Output

To obtain more accurate crop output information, the SSB and the statistical agencies of various central-level ministries and local-government levels conduct some noncensus-type surveys of typical production units to estimate crop production. The surveys are done in addition to the mandatory regular crop reporting forms imposed by the Government (74).

Surveys of crop output are rather complicated because of numerous kinds of crops, differences in climatic regions, and the high level of multiple cropping. The basic survey methods employed in the past have varied because of the transformation of the structure of agricultural production. In the early fifties, agricultural production was generated by individual rural families, and output could only be estimated by using typical production unit survey methods. These rural households were collectivized in 1956 and agricultural producer cooperatives were organized. The newly established collective farm accounting systems provided preliminary conditions permitting the use of the census-type reporting system. Since then, China has established a nationwide statistical reporting system.

Problems with the census-type reporting system include the conflicting interests between Government, collective, and

individuals. The collective may tend to underreport crop output so that the Government will set quota targets lower than actual capacity. The advantage to the collective is that it can then easily complete the quota and obtain a higher price for production in excess of the quota. Other problems include the broad scope of work, involving numerous agencies at different government levels, and the problem involved in summarizing a huge volume of statistics. The results obtained through the system have not accurately and completely reflected the real situation. For these reasons, surveys of agricultural crops are needed. Output information obtained through noncomprehensive types of surveys are used primarily to check or verify the statistics collected through the census system (74).

From 1963 to 1966, agricultural production survey teams (diaochadui) were organized and approved by the SC. Each year during the harvesting period, these survey teams (national level) together with branch teams (fendui) located in each province and prefecture carried out sample surveys on agricultural output throughout the country. The teams, however, were abolished in 1966. Following the restoration of the statistical system in 1976, some of the survey teams have been reinstated and have resumed their work. Major survey methods used to estimate crop output are introduced below.

Sample surveys: These surveys are carried on by the agricultural production survey teams and are based on the same methodology used in the agricultural output survey in 1963. This method utilizes the equivalent interval method--a random sampling process in which the general population to be surveyed is first broken down into sampling strata on the basis of a criterion such as geographic characteristics (that is, hilly and level regions). Then, a list is compiled of all units (counties, brigades, or fields, depending on the level of the survey) in the stratum, arranged by order of average 3-year yield. At the same time, the area of each unit is also listed. Based on the cumulative sown area of the stratum and a predetermined total number of samples, equivalent sampling intervals (every 5th hectare on the list) can then be calculated. The required samples are then drawn from the list at each of the interval points (74).

The sample size varies with the level being sampled. In breaking down provinces, counties are randomly selected to total about 16 percent of the total counties in a province. Two to 3 percent of the total number of production brigades in each selected county are then chosen. A varying number of samples are taken from each chosen production brigade. On flat or dry fields where farms are relatively concentrated and larger in size, no fewer than 7 to 15 tracts of crops are selected. On hilly or paddy rice fields where farms are relatively scattered and smaller in size, no fewer than 20 to 30 tracts are selected (74). The number of samples taken from each tract should generally not be fewer than seven and the sample size within a tract needs to be enlarged if the area of the tract selected is larger. Area size of individual samples for various crops also

differs. In general, a sample area is either 10 square Chinese feet (one-six hundredth of a mu), or 10 Chinese feet (1 Chinese foot equals one-third of a meter or 1.094 U.S. feet) in length depending upon the crop being surveyed. Locations of the above samples are again determined by applying the equivalent interval method or are evenly distributed within a tract. Before the crop in an area is to be harvested, usually 1 or 2 days preceding the harvest, the crop in the selected samples is actually cut off and weighed; data on moisture, foreign materials, and damage is recorded and used as reference for total output estimation. These procedures have been adopted in certain provinces and counties for estimating agricultural crop production in the last several years.

Typical production unit survey: This method was widely used before 1956 and was described as "grouping of analogous cases and picking a representative one" (74). Procedures are to categorize crop areas into different groups according to natural, geographical, or production conditions (for example, breaking regions into mountain, hill, and plain areas); separate irrigated and nonirrigated areas; and divide areas by crops (food grain and cotton areas). The next step is to pick representative and typical production units (a production unit, a specialized group, or a tract of land) from each of the above categories. The final procedure is to select one of the following methods to proceed with the survey. One method is to make an on-the-spot visual examination to generate an estimate. A second method is to make a physical count of kernels or crop stalks in order to estimate the output. A third method is to estimate actually harvested crops for the sample unit. Officials indicated that during harvesting seasons quite a number of provinces and counties still employ these methods to obtain agricultural production data.

Fixed point survey: Certain counties are selected by the SSB for rural economic surveys; these counties select three production brigades. The production brigades are called the "fixed point" for the current as well as future surveys. Since 1978, the SSB has required all fixed point surveys in rural areas to report agricultural crop output data. To obtain this kind of information, agricultural economic interviewers are sent to the production brigades to proceed with the surveys. The interviewers fill out the forms and report directly to the SSB. Six forecasts and production reports are derived from this type of survey each year. Also, some provinces and counties set up and conduct this type of survey for their own purposes (74).

Inspection survey: After the completion of the 1979 annual statistical report, the SSB asked all provinces to sample 10 percent of their counties by using the equivalent interval method. From each chosen county, three production teams were then selected. Investigation teams from upper government levels were sent to the teams to evaluate the accuracy of the agricultural crop output figures included in the annual report. Written reports were submitted to the SSB. This kind of evaluation work, however, is carried out on an irregular basis.

Some provinces and municipalities also reported using this kind of survey (74).

Surveys of Rural Family Income and Expenditure

Information obtained from the rural family income and expenditure surveys is used to study rural household conditions, production, exchange, distribution, consumption, and accumulation. Data from these surveys serve as important reference points because the Government calculates the balance of major agricultural commodities, purchasing power of farmers, currency circulation in rural areas, transfer of commercial commodities, and the gross value of agricultural products. The Government uses these surveys to formulate economic policies and draws up economic plans based on data from the surveys (72).

In 1955, the SSB carried out the first survey of rural family income and expenditure for the prior year. During the 11 years between 1955 and 1965, the survey was conducted every year except during 1958-61. The number of samples once reached as many as 18,000 households and there were almost 1,000 full-time interviewers. In addition to the compilation of annual data, quarterly data were also made available. This kind of survey, however, was interrupted during the Cultural Revolution (72).

Rural family income and expenditure surveys were reinstated in 1976. In 1979, surveys were carried out in 23 provinces, municipalities, or autonomous regions and covered a total of 10,282 households (8, No. 3, Jan. 19, 1981, p. 5).

The work of rural family income and expenditure surveys is under the uniform leadership of the SSB. Questionnaires for the surveys are formulated by SSB personnel. A few items may be included in the questionnaires according to the actual needs of local statistical bureaus. Full-time interviewers involved in the surveys are responsible to guide and organize the work. Each assistant interviewer takes care of the survey work of about 10 households (72).

To provide good quality information and to prevent gaps in the data, households are requested to put down daily income and expenditures in an account book and audit all records monthly and quarterly. Households selected to help government statistical work are rewarded with certain types of material prizes. Statistical agencies and interviewers are required to maintain confidentiality with regard to the family income and expenditure status of the sampled households.

The following items are included in the current surveys of rural family income and expenditures (72):

- o General information on family members.
- o Labor force.
- o Conditions of living quarters.
- o Conditions of private plots.
- o Major agricultural products grown on private plots.
- o Conditions of livestock and poultry raising and production of honey, silk cocoons, wool, and eggs.

- o Annual income situation.
- o Annual expenditure situation.
- o Quantity of 22 major agricultural commodities consumed.
- o Consumption of durable goods, such as bicycles, watches, and TV sets.
- o Interest income from savings and payments on loans.

Major items in the surveys are usually broken down to provide detail. For instance, yearly expenditure is separated into expenditures on consumption goods and expenditures on sideline production. The expenditure for consumption goods then includes even more detailed items, such as foodstuff, clothing, fuel, and others. There are also categories for homemade goods and purchased goods (72).

The sampling method used to generate data for the 1955 survey of rural family income and expenditures is particularly informative. Counties within a province were first selected (16). Districts were then selected within the counties, villages were identified from the chosen districts, and finally households were selected from within the villages. Based on experience gained from foreign countries, China fixed the number of samples from each province at 500 to 900 households and the total number of samples for the country as a whole ranging from 15,000 to 20,000 households. In 1955, the actual number of rural families in the survey totalled 16,468 from 25 provinces, municipalities, and autonomous regions. There were numerous difficulties in carrying out this type of survey. For example, sampled households in some areas could not be reached because of transportation difficulties. In other cases, the selected households simply could not perform the recordkeeping work or were considered not to be representative and had to be replaced by other households (72).

The current sampling procedures for the surveys of rural family income and expenditure are as follows. All units to be surveyed are listed in an ascending order with respect to certain major indicators. For example, the previous year's per capita income distributed by the collective is arranged in an ascending order by value of income allocated. Using cumulative population figures and the number of samples, the sampling interval can be calculated, and the samples can be chosen by applying the equal sampling intervals. The sampling procedures follow four steps:

- o Select 20 to 25 percent of the total number of counties in each province.
- o Choose three or four rural people's communes from each of the selected counties.
- o Pick an average production team for each commune.
- o Select 10 households out of the average production team.

China's statisticians claim several advantages for this sampling method. First, they consider sampled households to be generally

representative of farm families. Second, sample points (sampled households) are relatively close together, which reduces the total labor force needed to complete the survey work. These sampling procedures also have shortcomings. The major disadvantage of the method recognized by the officials is that the process of selecting the communes is not quite in line with the principle of random sampling. But, SSB officials feel the impact is not too significant. This sampling method is the one used not only by central Government statistical agencies, but also by local government statistical organs (72).

Data Utilization

Modern electronic data processing methods are just now being introduced in China's agricultural sector. There is a lack of knowledge not only about computer hardware, but also about software being used in the West. SSB officials said the assistance of the Food and Agriculture Organization of the United Nations with China's 1982 population census would bring into the country some new computers along with some useful peripheral accessories. Software programming for statistical work is still very much needed.

China's agricultural leaders expressed a desire to use computers in their statistical work and have requested assistance from the United States to set up a computer system which can efficiently handle China's agricultural statistical work. Only a few provincial statistical bureaus have set up computer centers (79). Simple kinds of desk calculators are being used at the county level. The traditional calculation instrument, the abacus, is still widely used at the commune level (73).

Analysis of data takes place at various government levels. The regular and annual statistical reporting forms are usually put together at each government level and sent up to the central level without detailed comparative or descriptive analysis. In cases of sample surveys or typical production team surveys, data obtained are summarized at each responsible level and an analysis of the data is written up to accompany the survey results (74).

Officials from the Ministry of State Farms and Land Reclamation indicated that three major types of analyses relating to the state farm system are conducted. First, information obtained from regular report forms is analyzed and compared with the working plans to determine the progress in implementing annual production plans and to identify and solve existing problems. Second, statistics compiled by the system are compared with domestic as well as world historical records. An analysis is made to identify the good points or shortcomings in the system and to make adjustments accordingly. Third, an effort is made to evaluate some major economic indicators such as total output, variety, quality, costs, raw material, fuel consumption, labor productivity, capital, and profits of major products (48).

The provincial statistical bureau often provides responsible departments within the provincial government with various annual and regular reports which can be used as an important basis for

formulating economic plans, evaluating the progress of plan implementation, and conducting research on future policy and planning schemes (29). During sessions of the provincial people's congresses, major agricultural statistics on such items as grain, cotton, and edible oil output; inventory number of hogs; and income of commune members are laid out in statistical work reports. Finally, all research institutes, universities, and colleges may request agricultural statistical agencies to make data available for research work. Provincial statisticians indicated that during the Cultural Revolution the quality of statistics was not uniformly good and false or incorrect figures were reported (29). For example, the arable land area was underreported and therefore the accuracy of sown area and yield was affected. Statistics on total production of agricultural crops are generally accurate (29).

Editing and summarizing statistical information from the basic-level unit are very important. The general work program of county statisticians is to edit statistical information from the basic-level units carefully. The county should send personnel down to basic-level units to evaluate and guide their statistical work. Use of county-level statistics is similar to that already discussed for the provincial level. However, it was reported that county statistics, after processing and tabulating, are published for reference within a prefecture only. It is not generally possible for a statistician to compare one county's data with that for another county which is located in a different prefecture. The same limits apparently are applied to both prefectural and provincial levels (33).

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APPENDIX: THE AGRICULTURAL STATISTICAL REPORTING SYSTEM

by State Statistical Bureau and Ministry of Agriculture, 1980

METHODS FOR IMPLEMENTING THE "AGRICULTURAL STATISTICAL REPORTING SYSTEM"

1. The State Statistical Bureau and the Ministry of Agriculture jointly issued the "Agricultural Statistical Reporting System." The reporting system will supply data to government and party officials at various levels. The statistical information generated by the system will be used to make policies, formulate plans, understand national agricultural production, monitor the modernization of the agricultural sector, and understand income distribution conditions in the commune system.
2. The scope of the statistical reporting system includes overall agricultural output (crop, forestry, livestock, sideline, and aquatic products) from every provincial-level unit (province, municipality, and autonomous regions). Agricultural output from state-owned and collectively owned enterprises is included along with output from commune members working on their own plots, plus output generated in other types of economic enterprises. Agricultural production generated by military units should also be included.
3. The prescribed reporting system includes two parts: the "1980 Agricultural Annual Statistical Reports" and the "1981 Comprehensive Agricultural Quarterly Statistical Reports." The SSB requires the annual comprehensive tables nos. 4, 6, and 7. The Ministry of Agriculture requires table No. 13. The remaining tables are required by both the SSB and the Ministry of Agriculture. Statistical bureaus and agricultural bureaus in provincial-level units are responsible for distributing and completing their respective tasks and are responsible for sending in the proper report forms.
4. The format of the tables used in the system is similar to the tables which were sent to the provincial-level units. Provincial-level statistical and agricultural bureaus may add items to the general format of the tables to meet the needs of prefectures, counties, and basic level units, providing they first meet national statistical content and timeliness requirements. If items are added to the tables, copies of the tables should be sent to the SSB.
5. Standard rules should be followed in entering data in the tables. Some rules are stated within the tables themselves and others are explained in the footnotes at the bottom of various tables. When rules are not stated in the tables, follow the standard given in An Explanation of Important Agricultural Statistical Indicators published by the SSB. In calculating the gross value of agricultural output (GVAO), questions of scope and calculation methods should be done according to national standards set by the Scheme for Calculating GVAO (draft).
6. Tables in the reporting system, including the annual tables and the comprehensive tables from provincial-level units, should be printed in one style and uniformly distributed. All

provincial-level units should guarantee that reports are fully filled out, are on time, and all required reports are actually submitted. Provincial-level units are also responsible for insuring that statistics from different bureaus are internally consistent.

7. Statistics entered into GVAO tables, aquatic production, and the value of income distributed to members should have two digits after the decimal point. All other statistics stated in units of 10,000 or 100,000,000 should have one digit after the decimal point.

8. A table of contents including titles of tables, reporting dates, and responsible reporting units is presented.^{1/}

^{1/} The eight paragraphs in this section are a translation of the SSB's instructions for the report form. The table of contents noted in paragraph 8 above can be found on pages 47-49.

Annual Report 1: Structure of Rural People's Communes (RPC), 1980

Item	Unit	Code	Actual yearend number
I. Number of RPC's	No.	1	
Number of production brigades (PB)	do.	2	
Number of production teams (PT)	10,000	3	
II. Basic accounting unit in RPC			
A. RPC as basic accounting unit	No.	4	
B. PB as basic accounting unit	do.	5	
C. PT as basic accounting unit	10,000	6	
III. RPC households	do.	7	
RPC population	do.	8	
RPC labor force, of which:	do.	9	
Crop, livestock, forestry, sideline, and fisheries	do.	10	
Commune-run enterprises	do.	11	
Temporary (contracted out)	do.	12	
RPC female labor force	do.	13	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Note: Number of integrated agricultural-industrial-commercial enterprises of which RPC is a major component is _____.

Annual Report 2: Crop sown area and production, 1980 (Part I: Data for RPC's)

Item	Code	Sown area (10,000 mu)	Total production (grains in 100 million jin; other crops in 10,000 dan)	Yield (jin/mu)
Total sown area	1			
I. Total grains (including soybeans)	2			
Summer harvested	3			
1. Rice	4			
a. Early rice	5			
b. Intermediate and single-crop late rice	6			
c. Double-crop late rice	7			
2. Total wheat, of which	8			
Spring wheat	9			
3. Tubers	10			
4. Corn	11			
5. Sorghum	12			
6. Millet	13			
7. Other miscellaneous grains	14			
8. Soybeans	15			
II. Economic crops	16			
1. Cotton	17			
2. Total oilseed crop	18			
a. Peanuts	19			
b. Rapeseed	20			
c. Sesame	21			
d. Linseed	22			
e. Sunflowerseed	23			
3. Bast fiber plants	24			
a. Jute and bluish dogbane	25			
b. Raime	26			
c. Hemp	27			
d. Flax	28			
4. Total sugar crop	29			
a. Sugarcane	30			
b. Sugar beets	31			
5. Total tobacco, of which	32			
Flue cured	33			
*6. Medicinal herbs	34			
*7. Other economic crops	35			
III. Other crops	36			
*1. Vegetable	37			
*2. Fruit and melons (for fruit)	38			
*3. Green fodder for feed	39			
*4. Green manure	40			

Note: * For items marked by an asterisk fill in sown area only.

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Cultivated area used for grains _____ 10,000 mu. Grain yield on basis of cultivated area _____ jin/mu.

Annual Report 2: Crop sown area and production, 1980 (Part II: State ownership, collective ownership, Commune-member managed, and others)

Item	Code	Total grain (including soybeans)		Cotton		Total	
		Sown : area :	Production : yield :	Sown : area :	Production : yield :	Sown : area :	Production : yield :
State-owned units	:	:	:	:	:	:	:
Collective-owned units:	:	:	:	:	:	:	:
Members of collectives:	:	:	:	:	:	:	:
Other	:	:	:	:	:	:	:

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Units: Area--10,000 mu; production (grains)--100 million jin, others--10,000 dan; yield--jin/mu.

Notes:

1. State-owned units: Agricultural enterprises operated by the state (state farms), industrial and commercial units, central and local government units, other organizations, schools, scientific research units, and military units.
2. Collective-owned units: Agricultural enterprises collectively operated by (1) all levels of rural people's communes; (2) commune-run farms, forest, pastureland, and fish farms; (3) agricultural teams of small cities and townships; and (4) collective farms operated by families of industrial and mining workers.
3. Members of collectives: Any agricultural undertaking operated by commune members and not included in collective production. This includes production from private plots and fodder plots and crops raised on fragmented wasteland.
4. Other: Anything not included in the above three categories. This includes joint state and collective undertakings and operations by individual households, foreign investment, joint ventures, and overseas Chinese or Hong Kong and Macao businesses. Any major item in this category can be separately listed.

Annual Report 3: Production of silk cocoons, tea, and fruit, 1980

Item	Code	Actual production (10,000 dan)	Item	Code	Actual yearend area (10,000 mu)
I. Total silk cocoon					
1. Mulberry	1		IV. Mulberry orchard	22	
2. Tussah	2		Oak orchard-tussah	23	
3. Castor	3		Area used 1/	24	X
	4				
II. Total tea	5		V. Tea farms	25	
1. Black tea	6		Area picked	26	X
2. Green tea	7				
3. Oolong tea	8		VI. Fruit orchards	27	
4. Tea bricks	9		1. Banana	28	
5. Other	10		2. Apple	29	
			3. Citrus	30	
			4. Pears	31	
			5. Grapes	32	
III. Total fruits	11				
1. Banana	12				
2. Apple	13				
3. Citrus	14				
4. Pears	15				
5. Grapes	16				
6. Pineapple	17				
7. Red dates (include dry dates converted)	18				
8. Persimmon (include dry persimmon converted)	19				
9. Lichee	20				
10. Longan	21				

Table formulated by State Statistical Bureau and Ministry of Agriculture.

X means not applicable.

1/ Of total oak orchards area, give area on which silkworms were allowed to feed on trees.

Annual Report 4: Forestry production, 1980

Item	Unit	Code	Quantity
I. Conditions of afforestation			
A. Area afforested this year (based on area which has a survival rate of more than 40%)	10,000 mu	1	
of which: Afforested area owned by state	do.	2	
Area afforested by airplane	do.	3	
1. Timber trees	do.	4	
2. Economic trees	do.	5	
3. Windbreaks	do.	6	
4. Other forests	do.	7	
B. Number of trees planted on scattered plots <u>1/</u>	10,000 seedlings	8	
C. Yearend area of seedlings	10,000 mu	9	
of which: Area of newly planted seedling	do.	10	
D. Yearend area of young forests	do.	11	
E. Yearend area of forest planted on reclaimed land	do.	12	
II. Production of forestry products <u>2/</u>			
A. Raw lacquer	10,000 dan	13	
B. Tung oil tree seeds	do.	14	
C. Tea-oil seeds	do.	15	
D. Black tallow tree seeds	do.	16	
E. Gall nuts	do.	17	
F. Palm flakes	do.	18	
G. Pine resin	do.	19	
H. Dry bamboo shoots (fresh shoots should be converted to a dry basis)	do.	20	
I. Walnuts	do.	21	
J. Chestnuts	do.	22	
III. Bamboo and timber cut by PB's and PT's			
A. Timber	10,000 cubic meters	23	
B. Mao bamboo	10,000 pieces	24	

Table formulated by State Statistical Bureau.

1/ Calculate according to actual number of trees living at yearend.

2/ Include forestry products used by commune members.

Annual Report 5: Livestock production (Part I: Livestock products), 1980

Item	Unit	Code	Production
I. Annual finished and marketed hogs	: 10,000 head	1	
Pork production	: 10,000 jin	2	
II. Annual number of beef cattle marketed and slaughtered on farm	: 10,000 head	3	
Beef production	: 10,000 jin	4	
III. Annual number of sheep marketed and slaughtered on farm	: 10,000 head	5	
Mutton production	: 10,000 jin	6	
IV. Production of cow milk	: do.	7	
Production of goat milk	: do.	8	
V. Production of mohair	: do.	9	
Production of sheep wool	: do.	10	
A. Fine wool	: do.	11	
B. Semifine wool	: do.	12	
VI. Cashmere production	: do.	13	
VII. Honey production	: do.	14	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Annual Report 5: Livestock production (Part II: Livestock raising), 1980

Item	:	Unit	:	Code	:	Yearend total	Of which	
							Fertile females	Young animals
I. Total number of large animals	:	10,000	:	1	:		X	X
of which:	:		:		:			
Agricultural draft animals	:	do.	:	2	:		X	X
A. Cattle	:	do.	:	3	:			
1. Yellow cattle	:	do.	:	4	:			
2. Fine and improved dairy cattle	:	do.	:	5	:			
3. Water buffalo	:	do.	:	6	:			
B. Horses	:	do.	:	7	:			
C. Donkeys	:	do.	:	8	:			
D. Mules	:	do.	:	9	:			
E. Camels	:	do.	:	10	:			
II. Hogs	:	do.	:	11	:			
III. Sheep and goats	:	do.	:	12	:			
A. Goats	:	do.	:	13	:			
B. Sheep	:	do.	:	14	:			
*of which:	:		:		:			
Fine and improved sheep	:	do.	:	15	:			
Semifine and improved sheep	:	do.	:	16	:			
IV. Beehives (yearend)	:	boxes	:	17	:			
						Yearend numbers (10,000 head)		
						Code	Cattle	Hog
						:	:	:
						:	:	Sheep and goats
I. State-owned production units	:	18	:		:			
II. Collective-owned production units	:	19	:		:			
III. Commune member private production	:	20	:		:			
IV. Others	:	21	:		:			

Table formulated by State Statistical Bureau and Ministry of Agriculture.

X means not applicable.

Notes:

1. The production units specified in Annual Report No. 2 (Part II), that is state-owned, collective-owned, and commune-member managed, and other units, should also fill in this report.
2. Items indicated by an asterisk (*) must be filled in by regions designated as livestock areas. Nonlivestock regions should fill in the table if they can do so.

Annual Report 6: Aquatic production, 1980

Item	:	Code	: Production (10,000 tons)		
			:	: Of which:	
				: Total	: State
				: managed	
<hr/>					
I. Total aquatic production	:	1			
of which: Aquiculture	:	2			
A. Marine production	:	3			
of which: Aquiculture	:	4			
1. Fish	:	5			
2. Shrimp/crabs	:	6			
3. Shellfish	:	7			
4. Aquatic plants	:	8			
Quantity of fine quality products	:				
caught from sea	:	9			
B. Fresh water production	:	10			
of which: Aquiculture	:	11			
1. Fish	:	12			
2. Shrimp/crabs	:	13			
3. Shellfish	:	14			
<hr/>					
	:		: Area (10,000 mu)		
	:	Code	:	: Of which:	
	:		:	: Total	
	:		:	: State	
	:		:	: managed	
<hr/>					
II. Area used for aquiculture	:	15			
A. Fresh water	:	16			
B. Marine	:	17			
<hr/>					

Table formulated by State Statistical Bureau.

Annual Report 7: Tropical crop production, 1980

Item	:	:	Actual area		:	Harvested	:
	:	:	:	:	:	Of which:	:
	:	Code	Yearend	:	newly	area (for	Total
	:	:	total	:	planted	trees	production
	:	:	:	:	or set	count the	:
:	:	:	:	this year	trees	:	
:	:	:	:	:	scored)	:	
Rubber (converted to dry-sheet rubber basis)	:	:	:	:	:	:	:
Coffee (converted to dry-bean basis)	:	1	:	:	:	:	:
Coconut	:	2	:	:	:	:	:
Oil palm (converted to a seed basis)	:	3	:	:	:	:	:
Cashew (converted to dry basis)	:	4	:	:	:	:	:
Essential oil crops	:	5	:	:	:	:	:
of which: Lemongrass (con-	:	6	:	:	:	:	:
verted to fresh	:	:	:	:	:	:	:
leaf basis)	:	7	:	:	:	:	:
Sisal hemp (converted to piece basis)	:	8	:	:	:	:	:
Pepper (converted to a seed basis)	:	9	:	:	:	:	:
	:	:	:	:	:	:	:

Table formulated by State Statistical Bureau.

Units: Area--10,000 mu; production of coconut--10,000 head; others--dan.

Note:

Report should be filled out by Guangdong, Guangxi, Fujian, and Yunnan provinces.

Annual Report 8: Cultivated area, 1980

Item	:	Code	:	Area (10,000 mu)
I. Cultivated area at beginning of the year	:	1	:	
II. Increase in cultivated area this year	:	2	:	
of which: Newly reclaimed land	:	3	:	
of which: State farm reclaimed land	:	4	:	
III. Decrease in cultivated area this year	:	5	:	
of which: Land used in capital construction by the government	:	6	:	
IV. Actual amount of cultivated land at yearend	:	7	:	
A. Paddy fields	:	8	:	
B. Dry fields	:	9	:	
of which: Irrigated fields	:	10	:	
V. Yearend cultivated land classified by ownership,	:		:	
of which:	:		:	
A. State owned	:	11	:	
B. Collectively owned	:	12	:	
of which: Commune members' private plots	:	13	:	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Annual Report 9: Yearend inventory of major agricultural machines, 1980

Item	Unit	Code	Quantity
Total power of agricultural machinery	: 10,000 horse-		
	: power	1	
I. Cultivating machinery			
A. Large and medium-sized tractor	: Number/10,000		
	: horsepower	2	
B. Small and handguided tractors	: do.	3	
C. Large and medium-sized tractor drawn attachments	: Number in		
	: 10,000 units	4	
of which: Tractor-drawn plows	: do.	5	
Tractor-drawn harrow	: do.	6	
Tractor-drawn seeders	: do.	7	
D. Small and handguided tractor-drawn implements	: do.	8	
E. Plowing boats	: Boats/10,000		
	: horsepower	9	
F. Motorized rice transplanters	: Number/10,000		
	: horsepower	10	
II. Irrigation machinery			
A. Machines used for agricultural drainage and irrigation	: Number in		
	: 10,000 units/		
	: 10,000		
	: horsepower	11	
of which: Diesel	: do.	12	
Electric	: Number in		
	: 10,000 units/		
	: 10,000		
	: kilowatts/		
	: 10,000		
	: horsepower	13	
B. Agricultural pumps	: 10,000 units	14	
C. Mechanized sprinklers	: Sets	15	
III. Harvesting machinery			
A. Combines	: Number/10,000		
	: horsepower	16	
B. Motorized harvesters	: do.	17	
C. Motorized threshers	: Number	18	
D. Seed sorters	: do.	19	
E. Grain dryers	: do.	20	
IV. Equipment for processing agricultural products			
A. Rice and flour mills	: 10,000 units	21	
B. Cotton gins	: do.	22	
C. Oil presses	: do.	23	

Continued--

Annual Report 9: Yearend inventory of major agricultural machines, 1980--Continued

Item	Unit	Code	Quantity
V. Transportation equipment			
A. Heavy trucks for agricultural use	Number/ horsepower	24	
B. Wagons (excluding those pulled by hand)	10,000 units	25	
C. Motorized transport boats	Number of boats/10,000 tons/10,000 horsepower	26	
VI. Equipment for plant protection			
Motorized sprayers	Number in 10,000 units/ 10,000 horsepower	27	
VII. Livestock equipment			
A. Feed grinders	10,000 units	28	
B. Hay cutters	Number	29	
C. Motorized shearing machines	do.	30	
D. Milking machines	do.	31	
VIII. Forestry equipment			
A. Hole digger	do.	32	
B. Tree planter	do.	33	
C. Cutter-irrigator	do.	34	
D. Weeder	do.	35	
XI. Fishing equipment			
A. Motorized fishing boats	Number of boats/10,000 tons/10,000 horsepower	36	
B. More than 400 horsepower boats	do.	37	
C. 200-399 horsepower boats	do.	38	
D. 80-199 horsepower boats	do.	39	
E. 20-79 horsepower boats	do.	40	
F. 19 horsepower and below	do.	41	
X. Semimechanized tools			
A. Large carts with rubber tires	10,000 units	42	
B. Push carts with rubber tires	do.	43	
XI. Other equipment			
A. Bulldozers	Number/ horsepower	44	
B. Ditch makers	Number	45	
C. Dredgers	Boats	46	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Item	Unit	Code	Quantity
I. Conditions of agricultural mechanization			
A. Actual machine-cultivated area this year	: 10,000 mu	1	
B. Area sown by machines this year	: do.	2	
of which: Area machine transplanted	: do.	3	
C. Area harvested by machine <u>1/</u>	: do.	4	
II. Agricultural electrification			
A. Rural electric consumption <u>2/</u>	: 100 million : kWh	5	
B. Number of commune-operated hydroelectric stations	: Units	6	
Generating capacity	: 10,000 kilo- : watts	7	
C. Number of PB- and PT-operated hydro-electric stations	: Units	8	
Generating capacity	: 10,000 kilo- : watts	9	
III. Chemical fertilizer use <u>3/</u>	: 10,000 tons	10	
A. Nitrogen	: do.	11	
of which: Ammonia water	: do.	12	
B. Phosphate	: do.	13	
C. Potassium	: do.	14	
D. Compound	: do.	15	
IV. Marsh gas pits	: Units	16	
V. Farmland irrigation			
A. Effectively irrigated area	: 10,000 mu	17	
of which: Mechanized irrigation <u>4/</u>	: do.	18	
Area watered by electric pumps	: do.	19	
Area watered by sprinklers	: do.	20	
B. High and stable-yield fields	: do.	21	
C. Electric pump wells	: 10,000	22	
of which: Fully equipped	: do.	23	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

1/ For the above indicators, do not include area worked by semimechanized equipment.

2/ Do not include electricity used by county-operated industry or electricity for domestic use in cities and towns.

3/ Actual weight and nutrient-weight basis.

4/ Include water lifted by water turbines.

Item	Unit	Value in	
		1970 prices (10,000 yuan)	1980 prices (10,000 yuan)
Gross value of agricultural output	1		
I. By subsector			
A. Crops	2		
B. Forestry	3		
C. Animal husbandry	4		
D. Sideline production	5		
of which: PB operated enterprises	6		
PT operated enterprises	7		
E. Aquatic	8		
II. By ownership			
A. State owned	9		
B. Collectively owned	10		
C. Commune members managed	11		
D. Others	12		

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Annual Report 11: GVAO, 1980 (calculation table)

Item	Quantity	Value in 1970		Value in 1980		Explanations
	of	prices		prices		
	product	Price	Value	Price	Value	
		(yuan)	(10,000 yuan)	(yuan)	(10,000 yuan)	
I. Crops						
A. Major commodities						
1. Grain crops						
a. Rice						
... 1/						
2. Economic crops						
a. Cotton						
b. Oilseeds						
1) Peanuts						
... 1/						
c. Bast fiber plants						
1) Hemp and jute						
... 1/						
d. Sugar crops						
e. Tobacco						
f. Medicinal materials						
g. Others						
3. Vegetables and melons						
a. Vegetables						
b. Melons (for fruits)						
4. Tea, mulberry, fruit						
a. Tea						
b. Mulberry						
c. Fruit						
5. Fodder and green manure						
6. Other crops						
B. Byproducts						
1. Grain crops						
a. Rice straw						
... 1/						
2. Economic crops						
a. Cotton stalks						
II. Forestry						
A. Timber growing						
1. Afforestation						
... 1/						
B. Forestry products						
1. Rubber (fresh latex)						
2. Raw lacquer						
C. Production bamboo-timber cutting						
1. Timber						
2. Bamboo						

See footnote at end of table.

Continued--

Annual Report 11: GVAO, 1980 (calculation table)--Continued

Item	:	Quantity of product	Value in 1970		Value in 1980		:	Expla- nation
			prices		prices			
			Price	Value	Price	Value		
			(yuan)	(10,000 yuan)	(yuan)	(10,000 yuan)		
III. Animal husbandry	:	:	:	:	:	:	:	:
A. Propagation, growth, and weight gain of livestock	:	:	:	:	:	:	:	:
1. Hogs	:	:	:	:	:	:	:	:
2. Large animals	:	:	:	:	:	:	:	:
a. Yellow ox	:	:	:	:	:	:	:	:
b. Water buffalo	:	:	:	:	:	:	:	:
... 1/	:	:	:	:	:	:	:	:
3. Sheep	:	:	:	:	:	:	:	:
B. Feeding of poultry/flocks	:	:	:	:	:	:	:	:
C. Live animal products	:	:	:	:	:	:	:	:
1. Wool	:	:	:	:	:	:	:	:
2. Cow milk	:	:	:	:	:	:	:	:
3. Goat milk	:	:	:	:	:	:	:	:
4. Fresh eggs	:	:	:	:	:	:	:	:
... 1/	:	:	:	:	:	:	:	:
D. Other feeding animals	:	:	:	:	:	:	:	:
1. Total silk cocoon	:	:	:	:	:	:	:	:
a. Mulberry cocoon	:	:	:	:	:	:	:	:
... 1/	:	:	:	:	:	:	:	:
2. Bees	:	:	:	:	:	:	:	:
... 1/	:	:	:	:	:	:	:	:
IV. Sideline production	:	:	:	:	:	:	:	:
A. Wild plants picked	:	:	:	:	:	:	:	:
1. Wild-grown fiber	:	:	:	:	:	:	:	:
2. Wild oilseeds	:	:	:	:	:	:	:	:
... 1/	:	:	:	:	:	:	:	:
B. Animal hunting	:	:	:	:	:	:	:	:
C. Brigade and team industry	:	:	:	:	:	:	:	:
1. Brigade-run industry	:	:	:	:	:	:	:	:
2. Team-run industry	:	:	:	:	:	:	:	:
V. Aquatic	:	:	:	:	:	:	:	:
A. Marine commodities	:	:	:	:	:	:	:	:
B. Fresh water commodities	:	:	:	:	:	:	:	:

Table formulated by State Statistical Bureau and Ministry of Agriculture.

1/ Presumably, ... means the other items as listed in Annual Report 2 should be listed out.

Annual Report 12: Conditions of distribution of revenue in PRC's, 1980 (Part I-A:
revenues generated by basic accounting units and their distribution)

Item	Unit	Code	Quantity
I. Total revenue	: 100 million yuan	1	
A. According to accounting units	:		
1. RPC's	: do.	2	
2. PB's	: do.	3	
3. PT's	: do.	4	
B. According to source of revenue	:		
1. Crops	: do.	5	
2. Forestry	: do.	6	
3. Animal husbandry	: do.	7	
4. Sideline production	: do.	8	
5. Aquatic products	: do.	9	
6. Commune industry	: do.	10	
7. Commune-brigade appropriated funds	: do.	11	
of which: Commune gave to brigades	:		
which were accounting units	: do.	12	
8. Other revenues	: do.	13	
C. Revenues generated from sale of commodities	: do.	14	
II. Expenses	:	15	
A. Production costs	: do.	16	
of which: Cash expenses for fertilizer	:		
supplied by members	: do.	17	
Depreciation of fixed assets	: do.	18	
B. Administrative expenses	: do.	19	
C. Other expenses	: do.	20	
III. Net revenue	: do.	21	
A. Government taxes	: do.	22	
B. Collective reserve fund	: do.	23	
1. Public accumulation fund	: do.	24	
2. Production expense fund	: do.	25	
3. Grain reserve fund	: do.	26	
4. Public welfare fund	: do.	27	
5. Other collective reserve funds	: do.	28	
C. Distributed to members	: do.	29	
of which: Cash	: do.	30	
Average per capita	: do.	31	
Supplementary data:	:		
1. Number of households participating in distribution	: 10,000 households	32	
2. Number of persons participating in distribution	: 10,000 persons	33	
3. Number of labor force units participating in distribution	: do.	34	
4. Number of labor days participating in distribution	: 100 million labor		
days		35	
of which: Capital construction labor days	: do.	36	
Member fertilizer labor days	: do.	37	
5. Accumulated total of households in debt to collective at	:		
distribution time	: 10,000 households	38	
of which: Debtor households this year	: do.	39	
6. Accumulated total of money owed collective at	:		
distribution time	: 100 million yuan	40	
of which: Total owed this year	: do.	41	
7. Accumulated total of households	:		
in a creditor position vis-a-vis the collective at	:		
the time of distribution	: 10,000 households	42	
of which: Creditor households this year	: do.	43	
8. Accumulated total of money owed by the collective	:		
at distribution time	: 100 million yuan	44	
of which: Total owed this year	: do.	45	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Annual Report 12: Conditions of distribution of revenue in RPC's, 1980 (Part II:
Distribution of grain, including soybeans, in all basic accounting units)

Item	Unit	Code	Quantity
I. Total grain (including soybeans) available for distribution	100 million jin	1	
A. Collectively produced grain	do.	2	
B. Government-marketed grain	do.	3	
C. Other grain	do.	4	
II. Distribution of grain			
A. Government-procured grain	do.	5	
B. Grain reserved by collective	do.	6	
1. Seed	do.	7	
2. Feed	do.	8	
of which: Grain fed to hogs by commune members	do.	9	
3. Grain reserves	do.	10	
4. Other collective reserves	do.	11	
C. Grains distributed to members	do.	12	
1. Distributed on basis of population	do.	13	
2. Distributed on basis of work points	do.	14	
of which: Distributed on basis of fertilizer work points	do.	15	
3. Grain awarded for surpassing production quotas	do.	16	
4. Other grain distributed	do.	17	
Per capita distribution	jin	18	
Amount of distributed grain which was produced by the collective	100 million jin	19	
Per capita distribution	jin	20	
III. Supplementary material			
A. Yearend grain reserves	100 million jin	21	
1. In government reserves	do.	22	
2. In team granaries	do.	23	
B. Number of persons participating in distribution of grain	10,000 persons	24	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Annual Report 12: Conditions of distribution of revenue in RPC's, 1980 (Part III:
Classification of basic accounting units according to the levels of average
per capita income, grain distributed, and increase or decrease in income)

Item	Unit	Code	Quantity
I. Number of basic accounting units	Number	1	
A. Classified according to levels of per capita income			
1. Number of basic accounting units with average per capita income under 40 yuan	do.	2	
2. 40-50 yuan	do.	3	
3. 50-60 yuan	do.	4	
4. 60-80 yuan	do.	5	
5. 80-100 yuan	do.	6	
6. 100-150 yuan	do.	7	
7. Above 150 yuan	do.	8	
of which:			
Number of units with 300-400 yuan	do.	9	
Number of units with 400-500 yuan	do.	10	
Number of units with above 500 yuan	do.	11	
B. Classified according to increases or decreases in income			
1. Number of units for which total income increased	do.	12	
of which: Number of units for which average per capita			
Increased	do.	13	
No change	do.	14	
Decreased	do.	15	
2. Number of units for which total income was the same as last year	do.	16	
3. Number of units for which total income was less than last year	do.	17	
C. Classified according to average per capita grain distributed			
1. Number of units which distributed less than 300 jin	do.	18	
2. 300-360 jin	do.	19	
3. 360-400 jin	do.	20	
4. 400-450 jin	do.	21	
5. 450-500 jin	do.	22	
6. 500-550 jin	do.	23	
7. More than 550 jin	do.	24	
II. Supplementary material			
Number of production brigades included in section I above	do.	25	
Classify according to average per capita income distributed by brigade			
1. Less than 40 yuan	do.	26	
2. 40-50 yuan	do.	27	
3. 50-60 yuan	do.	28	
4. 60-80 yuan	do.	29	
5. 90-100 yuan	do.	30	
6. 100-150 yuan	do.	31	
7. More than 150 yuan	do.	32	
of which:			
a. 300-400 yuan	do.	33	
b. 400-500 yuan	do.	34	
c. More than 500 yuan	do.	35	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Notes:

1. The highest level of per capita income distributed by a basic unit of account was ____ yuan.
2. The highest level of per capita income distributed by a production brigade was ____ yuan.

Annual Report 12: Conditions of distribution of revenue in RPC's, 1980
(Part IV: Economic income of three levels)

Item	Unit	Code	Quantity
I. Gross revenue of the three levels	: 100 million yuan	1	
A. Commune-level revenue	: do.	2	
B. Brigade-level revenue	: do.	3	
C. Team-level revenue	: do.	4	
II. Revenue from commune-brigade enterprise and enterprise units	: do.	5	
A. Commune-level enterprises and enterprise- like unit revenues, of which:	: do.	6	
Commune enterprises	: do.	7	
Enterprises and units for which the commune is the basic accounting unit	: do.	8	
B. Brigade-level enterprises and enterprise- like unit revenues, of which:	: do.	9	
PB enterprises	: do.	10	
Enterprises and units for which the PB is the basic accounting unit	: do.	11	
III. Total fixed assets of three levels	: do.	12	
A. Commune-level fixed assets	: do.	13	
B. Brigade-level fixed assets	: do.	14	
C. Team-level fixed assets	: do.	15.	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Annual Report 13: Status of agricultural science and research organizations, 1980 (Part I)

Item	Number of units	Number of workers and employees	Research expenses (10,000 yuan)	Area of : Three kinds of : fields (mu)
		Total : Management : Technical : Workers : Total : Business : expense : 1/		Area of : experim- : mental : fields : (mu) :
Total research units				
1. Provincial-level organization				
2. Prefecture or city-level organization				
3. County or district-level organization				

1/ Include subsidies for major research projects, expenses for trial-manufacturing of new products, and expenses for conducting experiments. All these expenses are appropriated by the government.

Annual Report 13: Status of agricultural science and research organizations, 1980 (Part II)

Item	Number of persons in units (10,000)	Number of technicians (10,000 persons)	Area of : experimental : fields : (10,000 mu) :	Notes
	Total : Government : Peasant : personnel : technician :			
Total mass research				
1. Commune agricultural science station				
2. Brigade agricultural science section		X		
3. Team agricultural science group		X		

Table formulated by Ministry of Agriculture.

X means not applicable.

Note:
(Not translated.)

Periodic Report 1: Quarterly telecommunication report on sown area, 1981

Item	Sown area (10,000 mu)
*Total sown area for agricultural crops	
*I. Grain crops	
A. Rice	
of which: Early rice	
*B. Wheat	
of which: Spring wheat	
C. Tubers	
D. Corn	
E. Sorghum	
F. Millet	
G. Other coarse grains	
H. Soybeans	
*II. Economic crops	
A. Cotton	
B. Oilseeds	
of which: Peanuts	
*Rapeseed	
Sesame	
C. Hemp	
of which: Jute	
Hemp	
D. Sugar crops	
Sugarcane	
Sugar beets	
E. Tobacco	
of which: Flue-cured	
F. Medicinal herbs	
G. Other economic crops	
*III. Other crops	
of which: *Vegetables	
*Green manure	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Notes:

1. The scope of statistics to be included in this table is all the area sown to agricultural crops in the whole country.
2. Provincial-level units should send in this report three times a year.
 - a) "Fall-winter sown crop area report" should be sent in before January 20.
 - b) "Spring-summer sown crop area report" for early rice, spring wheat, and cotton should be forwarded before the end of May.
 - c) "Spring and summer sown area for the whole year report" should be forwarded before the end of August.
3. Please note that the fall-winter reports cover only those crops marked with an asterisk.
4. For the "Report of spring and summer sown area for the whole year," do not include area sown during the previous fall or winter to crops such as winter wheat, rapeseed, green manure, or vegetables.

Periodic Report 2: Quarterly telecommunication report on crop production, 1981

Item		:	:	:	:
				Total production :	
				for grain (in :	
		Sown area :	100 million jin, :	Yield	
		(10,000 mu) :	and for all :	(jin per mu)	
			other crops :		
			in 10,000 dan) :		
I. Grain					
A. Summer harvested grain					
B. Rice					
of which: Early rice					
C. Wheat					
of which: Spring wheat					
D. Soybeans					
II. Economic crops					
A. Cotton					
B. Oilseeds					
of which: Peanuts					
Rapeseed					
Sesame					
C. Jute and hemp					
D. Sugarcane					
E. Sugar beets					
F. Flue-cured tobacco					
III. Others					
A. Mulberry silk cocoons					
B. Tussah silk cocoons					
C. Tea					
IV. Miscellaneous					
A. Area afforested (10,000 mu)					
B. Aquatic production (tons)					
C. Gross value of agricultural output					

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Note:

- The scope of the statistics to be included in this table is the production of agricultural commodities from all sectors of the society, i.e., state farm, collective, and private.
- Provincial-level units should forward reports on six occasions.
 - Before June 30, the report containing estimates of summer grain production (to include wheat) and rapeseed should be forwarded.
 - Before August 10, the report containing actual summer grain production statistics and rapeseed output should be forwarded.
 - Before August 10, units should forward the estimates of early rice production.
 - Before August 31, units should forward the estimates of spring wheat and spring rapeseed production.
 - Before September 15, units should forward the actual production statistics for early rice.
 - Before November 30, units should forward the report estimating crop production for the whole year. Miscellaneous reports noted in part IV in the table should also be forwarded at this time.
- Only Heilongjiang, Jilin, Nei Monggol, Qinghai, and Tibet should send in report 2. d. listed above (estimates of spring wheat and spring rapeseed production).

Periodic Report 3: Semiannual telcommunication report on livestock, 1981

Item	Unit	Number
I. Number of fat hogs marketed in the reporting period	10,000	
	head	
II. Number of beef cattle marketed and slaughtered on farms in reporting period	do.	
III. Number of sheep and goats marketed and slaughtered on farms in reporting period	do.	
IV. Number of large animals kept in sties at the end of the reporting period	do.	
A. Cattle	do.	
B. Horses	do.	
C. Donkeys	do.	
D. Mules	do.	
E. Camels	do.	
V. Number of hogs kept at the end of the reporting period of which:		
Pigs kept by collective units	do.	
Pigs kept by commune members	do.	
Fertile sows	do.	
VI. Number of goats at end of reporting period	do.	
Number of sheep at end of reporting period	do.	

Table formulated by State Statistical Bureau and Ministry of Agriculture.

Notes:

1. The scope of the statistics to be included in this table includes all sectors of society--state farm, collective, and private.
2. Provincial-level units should forward this report twice a year. The report for the first half of the year should be forwarded before July 15. Estimates of livestock conditions for the whole year should be reported before the end of November.

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